

# TRANSPORTATION

## FINAL DESIGN REPORT

FOREST HOME DRIVE  
OVER  
FALL CREEK

B.I.N. 3047450

TOWN OF ITHACA  
TOMPKINS COUNTY

P.I.N. 3950.41

April 2010



4-6-10



TOMPKINS COUNTY HIGHWAY DIVISION  
WILLIAM SCZESNY, Highway Manager



NEW YORK STATE DEPARTMENT OF TRANSPORTATION  
DAVID A. PATERSON, Governor      STANLEY GEE, Acting Commissioner



UNITED STATES DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

# PROJECT REPORT

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## PREFERRED ALTERNATIVE

The proposed project is the rehabilitation of the bridge carrying Forest Home Drive over Fall Creek (BIN 3047450), in the Town of Ithaca, New York.

The preferred alternative is Alternative 3. This alternative involves the construction of a modern structurally redundant multi-girder superstructure within the truss, similar to the downstream Forest Home Drive Bridge. The walkway would be supported on cantilever sidewalk brackets attached to the multi-girder superstructure. The existing trusses would remain for esthetic purposes. This alternative is considered feasible as it meets all of the project objectives. Refer to Section III.C of this report for detailed description and engineering considerations. Conceptual drawings for this alternative are included in Appendix A.

The preferred alternative proposes the retention of the existing non-standard horizontal curve and the associated non-standard stopping sight distance on the west bridge approach. Justification for the non-standard features is included in Appendix G.

Vehicular traffic would be controlled throughout the construction of this project through the use of an off-site detour. The detour route has a length of 1.8 miles and would follow Forest Home Drive, Judd Falls Road, Dryden Road (Route 366), and Caldwell Road. Pedestrians would be detoured along a 0.9 mile route along Forest Home Drive, Judd Falls Road, Plantations Road, and Caldwell Road. See Figure III-1 for a Detour Location Map.

The project will require four (4) minor permanent easements for construction and future maintenance of the bridge.

The project is classified as a Class II action under United States Department of Transportation (USDOT) NEPA Regulations, 23 CFR 771.115(c). A NEPA checklist was prepared for the project and the checklist is attached in Appendix B. The project complies with the requirements of a Programmatic Categorical Exclusion; therefore, further environmental review under NEPA is not required. The Federal Highway Administration is the NEPA lead agency.

The estimated total construction cost for the preferred alternative is \$1,094,000.

Construction funding for this project will be a blend of federal Transportation Enhancement Program (TEP) allocations and local funds.

## CHAPTER I - INTRODUCTION

This document serves as a decision making tool and documents impacts of the Upstream Forest Home Drive Bridge Rehabilitation over Fall Creek (BIN 3047450) in the Town of Ithaca, Tompkins County, New York. Existing deficiencies, alternative solutions, analyses and mitigation measures will be presented.

This document has been developed in accordance with the *Procedures for Locally Administered Federal Aid Projects* by the New York State Department of Transportation. This project will follow the Class II process under the New York State Department of Transportation (NYSDOT) Environmental Action Plan (EAP). The project is classified as a Type II Action in accordance with the definitions of the State Environmental Quality Review Act (SEQRA) Part 617, Title 6 of the Official Compilation of Codes, Rules and Regulations on New York State (6NYCRR617).

The project is being funded by FHWA, New York State DOT, Tompkins County, Town of Ithaca, and Cornell University. The project is being administered by Tompkins County.

The feasible alternative developed for this project involves the construction of a new steel multi-girder superstructure to support the roadway between the existing steel trusses. The new superstructure will also support water and sewer lines. The pedestrian walkway on the north face of the bridge will be maintained by the construction of a new cantilevered sidewalk, supported by the new superstructure. A limited length of the bridge approaches will be reconstructed to tie in the new bridge with the existing roadway. New concrete walkways will be constructed on the approaches to formally link the bridge walkway to existing pathways.

The Design Report was distributed to interested federal, state, county and local agencies and officials for review and comment. This document was also made available to the public. The Final Design Report includes revisions made as a result of the comments received from those reviewing the report, as well as the comments received at the public information meetings.

Copies of this report and additional information concerning the project may be obtained from:

Tompkins County Department of Public Works  
Attn: John Lampman, P.E.  
170 Bostwick Road  
Ithaca, New York 14850

Telephone: (607) 274-0307  
E-Mail: [jlampman@tompkins-co.org](mailto:jlampman@tompkins-co.org)

Identify this project as Forest Home Drive over Fall Creek in all correspondence and when requesting additional information.

# CHAPTER II - PROJECT IDENTIFICATION, EVOLUTION, CONDITIONS & NEEDS, AND OBJECTIVES

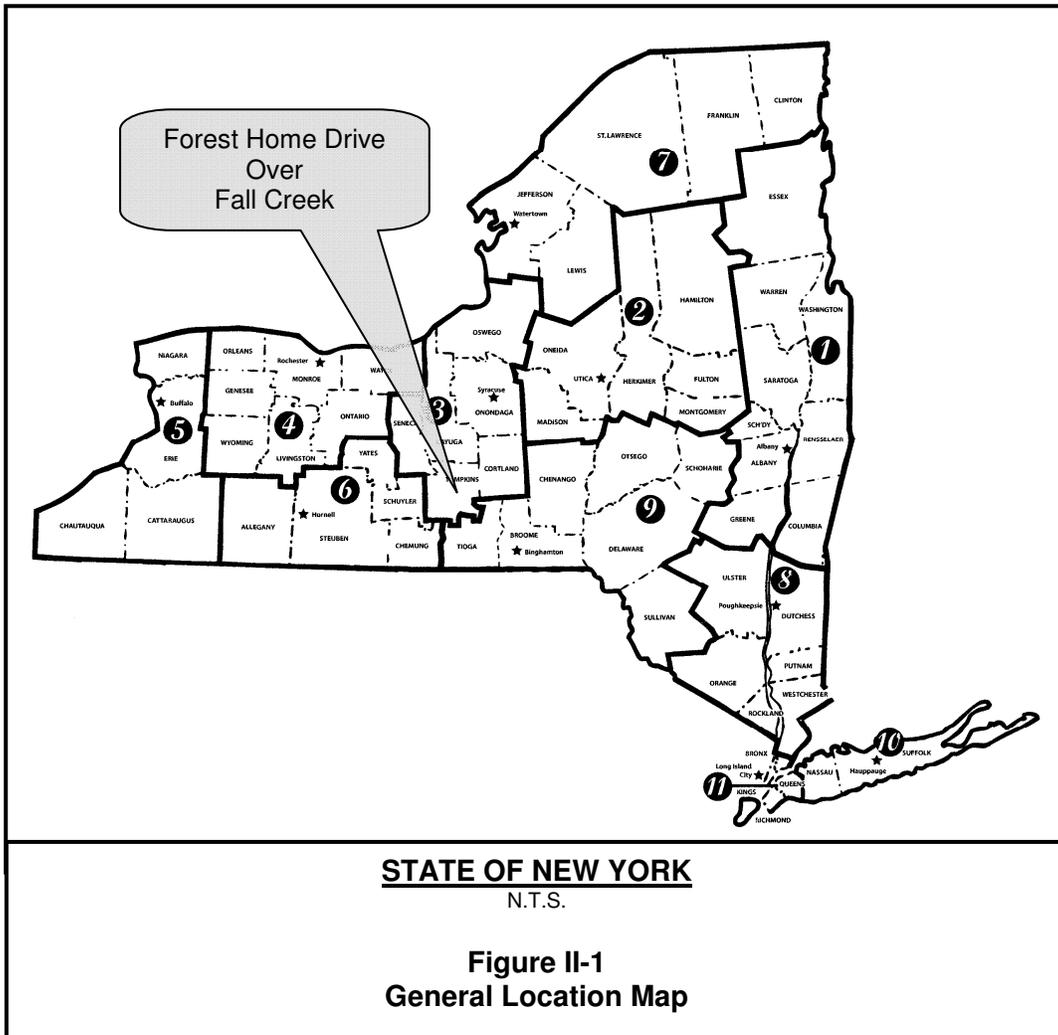
## II.A. Project Identification

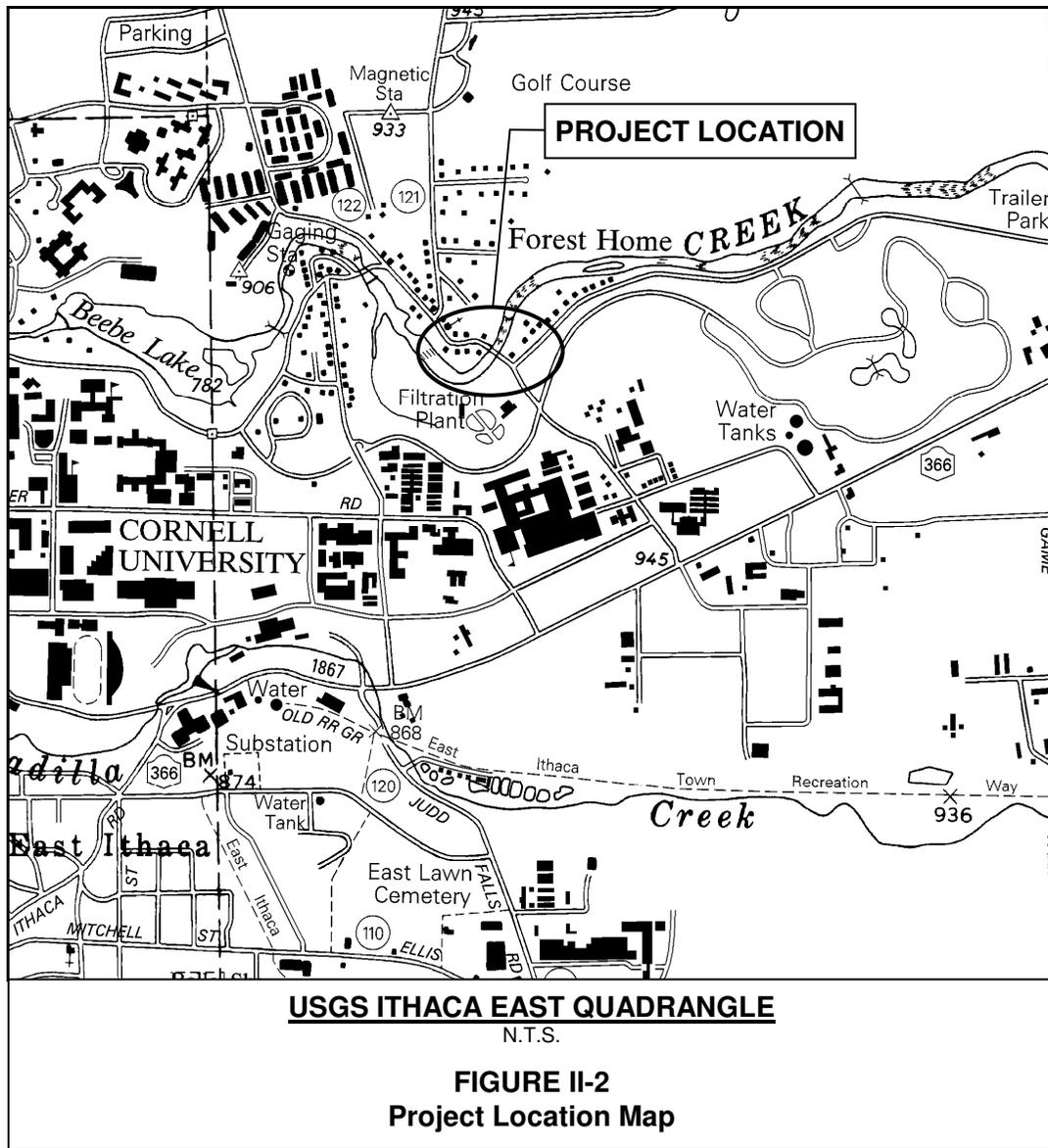
### II.A.1. Project Type

This project consists of the rehabilitation of BIN 3047450 and approach roadway improvements.

### II.A.2. Project Location/Description

BIN 3047450 is located on Forest Home Drive over Fall Creek in the Town of Ithaca, Tompkins County. See Figure II-1 for the General Location Map and Figure II-2 for the Project Location Map.





**II.B. Project Evolution**

This project was initially programmed due to structural deficiencies identified through the New York State Department of Transportation (NYSDOT) Biennial Bridge Inspection Program. These deficiencies resulted in the preparation of an application for funding under the NYSDOT *Transportation Enhancements Program* (TEP) by the Tompkins County Highway Division in June 2006. Funding for the project was approved by the Ithaca-Tompkins County Transportation Council in late 2006.

The rehabilitation of the upstream Forest Home Drive Bridge over Fall Creek will be investigated. The structure is listed on the National Register of Historic Places as a contributing element of the Forest Home Historic District. Improvements to Forest Home Drive at the bridge approaches, as well as the intersection with Caldwell Road, will also be examined. Forest Home Drive is a NYSDOT-designated *New York State Scenic Byway* and a NYSDEC-designated *Scenic Road*.

## II.C. Conditions & Needs

### II.C.1. Transportation Conditions, Deficiencies and Engineering Considerations

#### II.C.1.a. Functional Classification and National Highway System

Forest Home Drive is functionally classified as an Urban Minor Arterial. It is not on the National Highway System; nor is it a designated Qualifying or Access Highway on the National Network of Designated Truck Access Highways; nor is it located within one mile of a designated Qualifying or Access Highway.

#### II.C.1.b. Ownership and Maintenance Jurisdiction

The Tompkins County Highway Division owns and maintains the existing structure. The Town of Ithaca owns Forest Home Drive and Caldwell Road within the project limits, and is responsible for maintenance of the vehicle and pedestrian decks, pavement surface, snow removal, signs, pavement markings, walkways, and other appurtenant features.

#### II.C.1.c. Culture, Terrain, and Climatic Conditions

- (1) **Area Type:** The project is located in the Forest Home Historic District and the Fall Creek Valley Unique Natural Area. Adjacent land use through the majority of the project is residential and educational/recreational areas owned by Cornell University. Refer to §IV.B.3.f. for additional information.
- (2) **Terrain:** According to properties described in The American Association of State Highway and Transportation Officials *Policy on the Geometric Design of Highways and Streets* (AASHTO) and the NYSDOT *Highway Design Manual* (HDM), the terrain of the project area is rolling.
- (3) **Climatic Conditions:** The project area has no unusual climatic conditions. The climate is typical of the Finger Lakes region of western New York.

#### II.C.1.d. Control of Access

Access onto Forest Home Drive is uncontrolled throughout the project limits.

#### II.C.1.e. Existing Roadway Section

- (1) **Right-of-Way:** The right-of-way width along Forest Home Drive varies in width from a minimum of approximately 26 feet to a maximum of approximately 64 feet. The right-of-way width is based on the actual area being used for the highway and the bridge.
- (2) **Travel Lanes:** The existing roadway section is typically composed of one 9- to 10-foot wide travel lane and variable width unpaved shoulders in each direction.
- (3) **Curb:** There is no curbing located within the project limits.
- (4) **Medians:** There are no medians located within the project limits.

located on Caldwell Road immediately south of the intersection with Forest Home Drive. A horizontal curve with a radius of approximately 160 feet is located at the westerly project limit.

- (6) **Intersection Geometry and Conditions:** The names of the intersecting streets, speed limit, control type, skew angle, and sight distance on the minor approach are shown in Table II-1.

Table II-1 Intersections					
Minor Road	Posted Speed	Control	Skew	Sight Distance	
				Left	Right
Forest Home Drive (easterly leg)	25 mph	Stop	16°	295'	335'

Intersection sight distance (ISD) was measured in accordance with the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* (MUTCD). ISD is greater than the 250 feet required for the most-restrictive maneuver (Case B1 – Left Turn from stop).

- (7) **Parking:** Parking is not regulated along either side of Forest Home Drive or Caldwell Road within the project limits.
- (8) **Roadside Elements:**
- a. Snow storage is accommodated adjacent to the shoulders or behind the existing walkway.
  - b. Several residential and park access drives are located within the project limits.
  - c. The existing clear zone varies throughout the corridor, but measures approximately four feet from the existing edge of travel lane. Utility poles, non-traversable ditches, and vegetation generally establish the clear zone.

#### II.C.1.f. **Abutting Roadway Segments and Plans for Abutting Segments**

The geometry, attributes and character of the abutting roadway segments are similar to Forest Home Drive within the project limits. The Town of Ithaca has indicated that the abutting roadway segments will likely be reconstructed/rehabilitated within the next five years. The Town is progressing a federally-funded Traffic Calming Project that will build an entrance feature on Caldwell road incorporating shoulder treatment like those planned in the bridge project. Construction will likely be next year while the bridge is under construction.

**II.C.1.g. Speeds and Delay**

- (1) **Existing Speed Limit:** The posted speed limit is 25 mph on Forest Home Drive and 30 mph on Caldwell Road within the project limits.
- (2) **Actual Operating Speed:** The operating speed is a single speed that reflects the majority of motorists. Rather than use an average speed, which may only accommodate half the highway motorists, transportation agencies typically use the internationally accepted off-peak 85<sup>th</sup> percentile speed to represent the operating speed. The 85<sup>th</sup> percentile speed is the operating speed that only 15% of the motorists exceed during off-peak hours.

Speed data for Forest Home Drive was gathered by the Tompkins County Highway Department from February 5<sup>th</sup> to 8<sup>th</sup> 2008. The traffic counter was placed approximately 100 feet south of the Warren Road intersection. The data indicates that the 85<sup>th</sup> percentile speed was approximately 22 mph over the three day period.

Speed data was also gathered for Forest Home Drive from March 4<sup>th</sup> to 6<sup>th</sup> 2008. The traffic counter was placed approximately 1,330 feet east of the Caldwell Road intersection. The data indicates that the 85<sup>th</sup> percentile speed was approximately 32 mph over the three day period.

Speed data for Caldwell Road was gathered from February 26<sup>th</sup> to 28<sup>th</sup> 2008. The traffic counter was placed approximately 170 feet south of the intersection with Forest Home Drive. The data indicates that the 85<sup>th</sup> percentile speed was approximately 35 mph over the three day period.

Finally, speed data for Forest Home Drive was gathered from January 26<sup>th</sup> to 28<sup>th</sup> 2010. The traffic counter was placed on the project bridge. The data indicates that the 85<sup>th</sup> percentile speed was approximately 23 mph over the three day period.

- (3) **Travel Speed and Delay Runs:** A delay study was not performed; however, vehicular delays were observed on the bridge approaches during peak hours. Delays during off-peak hours were minimal.
- (4) **Travel time and Delay Estimates:** A delay study was not performed; therefore, future no-build delay run estimates were not prepared.

**II.C.1.h. Traffic Volumes**

- (1) **Existing Traffic Volumes:** Traffic data is illustrated in Table II-2 and the count summaries are included in Appendix C.
- (2) **Future No-Build Design Year Traffic Volumes Forecasts:** All data from the available traffic counts was projected to the estimated time of completion (ETC) and various future scenarios. A growth rate of 0.5% per year was utilized to project the Annual Average Daily Traffic (AADT), Design Hourly Volume (DHV), and Directional Design Hourly Volume (DDHV).

<b>Table II-2 Existing and Forecast Traffic Volumes</b>			
<b>Year</b>	<b>ADT</b>	<b>DHV</b>	<b>DDHV +</b>
<b>Forest Home Drive (South of Warren Road)</b>			
Existing (2008)	4,084	385	204
ETC (2009)	4,104	387	205
ETC+20 (2029)	4,535	428	227
<b>Forest Home Drive (East of Caldwell Road)</b>			
Existing (2008)	665	62	36
ETC (2009)	668	62	36
ETC+20 (2029)	738	69	40
<b>Caldwell Road</b>			
Existing (2008)	3,701	400	204
ETC (2009)	3,720	402	205
ETC+20 (2029)	4,110	444	227

+ Directional distribution = 53/47 south of Warren Road  
= 58/42 East of Caldwell Road  
= 51/49 south of Forest Home Drive

### II.C.1.i. Level of Service

The standard procedures for roadway and intersection capacity analysis are based on the Transportation Research Board's *Highway Capacity Manual 2000* (HCM). The procedures yield a Level of Service (LOS) as an indicator of roadway and intersection operation. LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. Levels of service range from "A" to "F", with "A" describing free flow traffic operations and F describing operations where demand volumes exceed capacity.

- (1) **Existing Level of Service and Capacity Analysis:** LOS was calculated for the Forest Home Drive segment south of Warren Road. The roadway segment operates at LOS C with acceptable delays.
- (2) **Future Level of Service and Capacity Analysis:** Future LOS were calculated for the roadway segment. The roadway segment will likely continue operating with acceptable delays.

Table II-3 Roadway Design Year Level of Service	
Year	LOS (V/C Ratio)
Existing (2008)	C (0.15)
ETC (2009)	C (0.15)
ETC+20 (2029)	C (0.17)

### II.C.1.j. Non-Standard Features and Other Non-Conforming Features

The geometric features of the roadway were evaluated in accordance with the standards set forth in NYSDOT's *Bridge Manual (BM)* and *Highway Design Manual (HDM)*. The standards and existing conditions are presented in Table III-1.

- (1) **Non-Standard Features:** Numerous non-standard features are located within the project limits. These features are critical design elements that do not meet standards set forth in Table III-1. These features include:
- a. Bridge Roadway Width: The bridge is a one-lane bridge, but does not meet the guidelines set forth in the NYSDOT "One-Lane Bridge Policy". The two-way Average Daily Traffic (ADT) of 4,084 vehicles per day is greater than the maximum of 350 and the sight distance on the approaches is limited.
  - b. Horizontal Curvature: The radius of the curve on the west approach is 160 feet, which is less than the standard minimum of 371 feet.
  - c. Stopping Sight Distance (SSD): The horizontal SSD on the west approach to the existing bridge is limited by the proximity of utility poles, vegetation, and the bridge trusses to the travel lane. The SSD is approximately 120 feet, which is less than 250 feet required for the design speed.
  - d. Structural Capacity: The structural capacity of the existing bridge is HS 14, which is less than the standard of HS 20.
- (2) **Non-Conforming Features:** Numerous non-conforming features are located within the project limits. These features are not critical design elements, but other geometric elements that do not conform to normally accepted practice. These features include:
- a. Inadequate guide rail: The bridge and approach railing do not meet current standards.
  - b. Headlight Sight Distance: HSD on the sag vertical curve located near the intersection of Caldwell Road provides less than the required 250-foot HSD; however, continuous roadway lighting is provided.

### **II.C.1.k. Safety Considerations, Accident History and Analysis**

Accident records were requested from the NYS Police, Tompkins County Sheriff, and Cornell University Police for the 42-month period from January 1, 2005 to July 31, 2008. A total of five accidents were reported during that period, all of which were clustered around the Caldwell Road intersection and easterly bridge approach. Three of the accidents involved vehicles advancing too close to the bridge and backing into stopped vehicles. One of the accidents involved a vehicle running through a stop sign at the intersection and striking another vehicle. None of these accidents involved injuries.

Lastly, one accident just outside of the project limits involved an operator of an all-terrain-vehicle (ATV) in the vicinity of the wildflower garden driveway entrance to Cornell Plantations. The driver of the ATV reportedly failed to yield the right-of-way while crossing Forest Home Drive and was struck by a motorist. This accident is the only one with a reported injury.

### **II.C.1.l. Pavement and Shoulder Conditions**

A field investigation of the pavement surface was conducted in February 2008. The pavement was generally in good condition; however, sections with longitudinal cracking, alligating, and frost heaving were observed. Pavement cores were not taken.

### **II.C.1.m. Guide Railing, Median Barrier, Impact Attenuators**

The bridge railing consists of two corrugated beam rails mounted to the trusses on each side of the roadway. Box beam guide railing is present on the west approach and the south side of the east approach. The approach railing segments are not adequately anchored to the bridge, lack stiffness transitions, and do not have appropriate end terminals.

No median barriers or impact attenuators exist within the project limits.

### **II.C.1.n. Traffic Control Devices**

There are no signalized intersections within the project limits. Signs and delineators installed throughout the project limits are generally in fair condition, although some show evidence of vehicular impact or poor reflectivity.

Continuous yellow full barrier markings are located along the centerline of the road. All pavement markings are in fair condition.

### **II.C.1.o. Structures**

- (1) **Description:** There is one structure within the project limits, the Forest Home Drive Bridge over Fall Creek (BIN 3047450). The bridge is also known locally as the "Upstream Forest Home Drive Bridge" to differentiate it from another bridge downstream of this structure. The bridge is listed on the National Register of Historic Places as a contributing element to the Forest Home Historic District.

The bridge is a single-lane, single-span through truss bridge with a Double Warren Truss configuration. The structure has a length of 116 feet, rail-to-rail width of 15.2 feet, and no skew. The truss is constructed from built-up riveted steel members. The floor system consists of transverse rolled steel floorbeams, longitudinal rolled steel stringers, and an open steel grating deck. The superstructure is supported on stone masonry

abutments. The structure supports a cantilevered timber plank walkway along the upstream side. A water main is mounted under the walkway and a pressurized sanitary sewer line is mounted on the downstream fascia.

- (2) **Clearances (Horizontal/Vertical):** There is no lateral clearance beyond the travel lane on the bridge. Vertical clearance on the bridge is limited to 15.3 feet by the truss portals.
- (3) **History & Deficiencies:** The current bridge was constructed in 1909 and has undergone several modifications over the years. Record plans are available for rehabilitation and repair work dating back to 1974. No plans exist for the original construction or rehabilitations prior to 1974.

Records provided by the NYSDOT indicate that the bridge was previously owned and maintained by New York State as part of State Highway (SH) 681. In 1969, the NYSDOT investigated the feasibility of rehabilitating both of the Forest Home Drive bridges, which were posted at 5 tons due to their poor condition. The investigation concluded that "To attempt to maintain these structures is a hopeless task." Following the investigation, the NYSDOT initiated a project to replace both bridges with modern structures. The project was met with heavy public opposition, because it was felt that the project would increase traffic in the area. Ultimately, in 1974, a portion of SH 681, including the bridge, was abandoned to the Town of Ithaca. Tompkins County, being responsible for maintaining the bridges on town roads, let a contract to the Standard Engineering Corporation for the rehabilitation of the bridge.

Record plans for the 1974 rehabilitation depict the existing bridge configuration at that time. The plans indicate that the roadway structure was a "jack-arch" system. This was a popular type of construction in the 1930's that utilized longitudinal steel stringers, encased in concrete to form a composite steel and concrete roadway structure. Arched forms were used between the longitudinal stringers, creating the so-called "jack arches". The jack-arch roadway was likely a modification made in the 1930's, apparently without consideration to the effect it would have on the load carrying capacity of the trusses. Standard Engineering Corp. reported in 1973 that the allowable live-load capacity of the walkway truss was 0 tons, and recommended that open steel grating be used in the rehabilitation to reduce the dead load. The deck material used in the original construction of the bridge is unknown, but based on the year of construction and the load capacity of the trusses, it was most likely timber.

The 1974 record plans also indicate that the existing walkway was supported by cantilever beams that were clamped to the underside of the floorbeams. The plans also indicate that the water line was present under the walkway in 1974. This fact, along with the fact that the walkway truss was not made stronger than the downstream truss, lead to the conclusion that the walkway was added at some point after the original construction of the bridge. Additionally, an historic photo from 1926 does not show the walkway, so it must have been added at a later time.

The 1974 rehabilitation replaced the jack-arch floor system with steel stringers and open steel grating. The transverse floorbeams and the entire walkway were also replaced. The truss roller bearings were retrofitted with bronze sliding plates and portions of the truss bottom chords were replaced and strengthened by the addition of steel plates. Welded connections were used for the vast majority of the rehabilitation work.

In 1975 a 4-inch pressurized sanitary sewer line was added along the downstream truss.

In 1994, a level 1 load rating analysis was performed and it was recommended that the bridge be posted for 7 tons. In 1995, four diagonal primary truss members were replaced on each truss to increase the load posting to 15 tons.

In 1998, additional rehabilitation work was performed. The roadway stringers were replaced in kind (the existing grating was re-used), the bridge seats at both abutments were reconstructed with reinforced concrete, all truss and stringer bearings were replaced with elastomeric bearings, a new strip seal joint was installed at the West Abutment, and new scour protection walls were constructed at both abutments.

Since 1998, the bridge has continued to deteriorate. The most significant deficiencies are found on the bottom chord members of both trusses. Deficiencies on the bottom chords are a major concern, as these are fracture critical members. By definition, the failure of a fracture critical member would likely lead to collapse of the entire structure. The bridge deficiencies are described in the Inspection section of this report.

#### (4) **Inspection:**

##### 2009 Biennial Inspection

The last biennial bridge inspection was conducted by NYSDOT consultant forces on September 9, 2009. A copy of the report is included in Appendix I.

The bridge inspection yielded a Federal Sufficiency Rating of 27.9. The Sufficiency Rating is on a scale of 1 to 100, where 100 would represent an entirely sufficient bridge and zero would represent an entirely insufficient or deficient bridge. It is based on factors related to the structural adequacy and safety of the bridge, the serviceability and functional obsolescence, and essentiality for public use. Bridges with rating below 50 percent are deemed functionally obsolete and qualify for replacement.

The inspection also yielded a State Condition Rating of 4.203. The Condition Rating is on a scale of 1 to 7, where 7 represents new or like new condition, 5 represents deterioration not affecting the performance of the structure, 3 represents significant deterioration and 1 represents serious or hazardous condition. Structures rated less than 5 are considered deficient and are eligible for replacement.

The following deficiencies were identified in the September 9, 2009 inspection (Items rated 4 or less):

- The shotcrete on the begin abutment stem has map cracking, efflorescence, and is hollow sounding over 10 percent of the area.
- The end left embankment is eroded, which is exposing several guide rail soil plates and causing the rail to lean outward.
- The begin approach asphalt is cracking in several locations with rutting in wheel tracks.
- The steel grate deck is rusty, has various scrapes and bends, and rattles loudly when traffic travels across the bridge.
- The vertical steel place curb along the right side exhibits heavy rust and severe section loss, especially at the near end.
- The primary members, particularly the bottom chord members, exhibit heavy corrosion with heavy delamination and significant section loss up to 100 percent.

- Stringers exhibit heavy surface corrosion.
- Secondary members exhibit areas of heavy rust and up to 100 percent section loss.
- The paint on the members below the deck is peeling or missing resulting in surface rust, pack rust, and section loss.
- Hangers for utilities are rusted with section loss.
- The end right stone wingwall exhibits significant mortar loss.
- The end right guide rail is disconnected from two consecutive posts.
- The pedestrian railing has posts that have broken loose from connection to fascia stringer. The railing is not sturdy over a quarter of its length.

### In-Depth Bridge Inspection

An in-depth bridge inspection was performed on April 15 and 16, 2008 in order to verify the existing information available for the bridge and to obtain additional information needed for design purposes. The inspection focused on verifying member sizes, obtaining connection details, and verifying the structural condition of the superstructure members.

#### Abutment Condition:

- The abutments are stone masonry with areas of cracked/missing mortar and cracked/loose stones. The stones are comprised of highly fractured and weathered rock with vertical cracks that extend through stones into mortar joints.
- Approximately 20% of the Begin Abutment and 50% of the End Abutment is covered with shotcrete. The shotcrete exhibits many cracks with efflorescence and approximately 10-20% of the area sounds hollow. The condition of the abutments beneath the shotcrete is unknown.

#### Bridge Deck Condition:

- The open steel grate deck exhibits paint peeling and surface rust. Many of the welds to the stringers are broken. As a result, the deck hits the stringers and makes a lot of noise as vehicles drive over the bridge.

#### Superstructure Condition:

- The truss members above the elevation of the deck show minimal signs of deterioration.
- The lower panel points and bottom chord members are heavily deteriorated.
- L1-L0 on the upstream truss exhibits heavy section loss on the gusset and chord members at the bearing (approximately 50% loss).
- Members of the built up bottom chords have at least 25% section loss and as much as 50-70% section loss on both trusses. The upstream truss exhibits the most severe deterioration with areas of 100% section loss.
- The plates on the end posts of both trusses are not connected with separation caused by pack rust.

(5) **Restrictions:** The bridge currently has a weight restriction of 15 tons.

(6) **Future Conditions:** If no improvements are made, the previously described deterioration will continue and it is expected that the bridge would be eventually closed within the next five to ten years.

- (7) **Waterway:** Neither the United States Army Corps of Engineers (USACE) nor the United States Coast Guard (USCG) recognizes Fall Creek as a navigable waterway.

### II.C.1.p. Hydraulics of Bridges and Culverts

A hydraulic analysis of the existing structure was not performed. Since the waterway opening width will remain the same and the stream flow will not be affected by the bridge superstructure, a hydraulic analysis is not necessary. The project is part of the FEMA Flood Insurance study for the Town of Ithaca, NY, effective December 19, 1984 and is located within a detailed FEMA study area with a delineated floodway. The flows for Fall Creek were determined from a Log-Pearson Type III statistical analysis of peak flow data from USGS Gage No. 04234000 on Fall Creek near Ithaca. The FEMA flows in Table II-4 are reported on Fall Creek at the dam upstream of Forest Home Drive with a corresponding drainage area of 126.0 square miles.

<b>Table II-4 Summary of Discharges from FEMA FIS</b>	
<b>Recurrence Interval (Years)</b>	<b>Peak Discharge (cfs)</b>
10	6,110
50	9,730
100	11,600
500	16,900

The FEMA Flood Insurance study for the Town of Ithaca, NY, effective December 19, 1984, lists the low chord elevation of the structure as 834.7 feet (NGVD 29). The depth of the floorbeams is not included in the FEMA low chord elevation. FEMA defines the low chord of the Forest Home Drive Bridge as the bottom of the stringers. Table II-5 shows the water surface elevations for the 10-, 50-, 100-, and 500-year events from the FEMA profile and the resulting freeboard between the water surface profile and FEMA low chord elevation. According to the FEMA profile and Flood Insurance Rate Maps, all flood events pass beneath the bridge and do not overtop the approaches.

<b>Table II-5 Summary of WSEs and Freeboard from FEMA FIS</b>		
<b>Recurrence Interval (Years)</b>	<b>Water Surface Elevation (NGVD29, ft)</b>	<b>Freeboard (ft)</b>
10	828.8	5.9
50	830.6	4.1
100	831.5	3.2
500	833.7	1.0

According to recent survey information, the low chord of the Forest Home Bridge is 835.16 (NGVD 29). The vertical clearance from the bottom of the stringers to the streambed was measured in the field as 15 feet. Using the measured vertical clearance and the water depths for the 10-, 50-, 100-,

and 500-year events shown in the FEMA profile, freeboard for the existing conditions was determined and is shown in Table II-6.

<b>Table II-6 Freeboard Based on Existing Geometry and FEMA Water Depths</b>		
<b>Recurrence Interval (Years)</b>	<b>Water Depth (ft)</b>	<b>Freeboard (ft)</b>
10	9.0	6.0
50	10.8	4.2
100	11.7	3.3
500	13.9	1.1

The freeboard values in Table II-5 were verified using field measurements and the results in Table II-6 are in close agreement. The existing structure has 4.2 feet and 3.3 feet of freeboard above the 50-year and 100-year flood events, respectively. Since the existing bridge and approaches are not overtopped and there is freeboard over the 500-year event, a hydraulic analysis of the structure is not necessary. Copies of the FEMA Flood Profile and Flood Boundary/Floodway Map are included in Appendix F.

#### **II.C.1.q. Drainage Systems**

The existing drainage system consists of open shoulders draining over the roadway embankment on the bridge approaches. Isolated closed drainage runs are located near the project limits. Cornell Plantations plans to create a storm water infiltration system west of the plantations driveway.

#### **II.C.1.r. Soil and Foundation Conditions**

Four test borings were made in the vicinity of the bridge in 1970 by NYSDOT. Copies of the boring logs are included in Appendix D. A review of the boring logs indicates that the subsurface conditions include approximately 15 feet of loose alluvial deposits (silt, fine sand, and gravel) over inter-bedded shale and limestone bedrock. Additional soil borings may be made during final design to gather additional information needed for the foundation design.

#### **II.C.1.s. Utilities**

Utility agencies were contacted to determine the location of any existing underground and overhead facilities. The following utilities are present in the general vicinity of the project:

1. Overhead and underground telephone and fiber optic lines owned and maintained by Verizon.
2. Overhead and underground electric lines owned and maintained by New York State Electric & Gas
3. Overhead and underground cable television lines owned and maintained by Time Warner Cable.
4. Underground gas lines owned and maintained by New York State Electric & Gas.
5. Underground sanitary sewer lines owned and maintained by the Town of Ithaca.

6. Underground potable water distribution mains owned and maintained by the Town of Ithaca.
7. Underground raw water intake lines owned and maintained by Cornell University.

#### **II.C.1.t. Railroads**

There are no railroads located within the project limits.

#### **II.C.1.u. Visual Environment**

The adjacent land uses through the corridor are largely residential, recreational, and open space.

#### **II.C.1.v. Provisions for Pedestrians and Bicyclists**

There are no designated bike lanes or routes within the project limits. Pedestrians are accommodated on discontinuous runs of walkway or roadway shoulders, while bicyclists are accommodated on the existing travel lanes.

#### **II.C.1.w. Planned Development for Area**

There are no developments planned within or adjacent to the project limits. The development potential is reflected in the estimated growth rate described in §II.C.1.h.

#### **II.C.1.x. System Elements and Conditions**

The project should not be affected by any other existing transportation problems or proposed improvements in the region.

#### **II.C.1.y. Environmental Integration**

No environmental enhancements are included in the scope of this project.

### **II.C.2 Needs**

#### **II.C.2.a. Project Level Needs**

- (1) **Structure:** The existing bridge is rapidly deteriorating and does not meet the current standards for load capacity or roadway width. The bridge requires rehabilitation in order to meet current minimum load capacity requirements and to prevent the inevitable closing of the structure to traffic.
- (2) **Pavement Needs:** The existing pavement within the project limits has numerous surface deficiencies, as summarized previously in §2.C.1.i. Without proper attention, the pavement will continue to degrade, becoming unsafe for motorists, bicyclists and pedestrians. The project should address these deficiencies in a cost effective manner.
- (3) **Drainage Needs:** None. The existing drainage system is functioning adequately.
- (4) **Safety Needs:** The lack of a defined stopping point on the east approach has resulted in some minor accidents due to vehicles backing up when yielding to an opposing vehicle crossing the bridge. A defined stopping point needs to be established on the east approach.

Although there is a heavily used walkway on the bridge, there are no walkways on the bridge approaches. Approach walkways are needed to provide safe access to the bridge walkway.

- (5) **Capacity Needs:** None. The existing roadway segment operates with acceptable levels of service for current and projected traffic volumes.
- (6) **Environmental Needs:** The bridge is listed on the National Register of Historic Places as a contributing element to the Forest Home Historic District, therefore the historic features of the bridge must be preserved wherever possible. Also, any project improvements should minimize the impacts to adjacent residential properties, wooded areas, scenic vistas, and the winding character of the roadway.

#### **II.C.2.b. Area or Corridor Level Needs**

No specific corridor or area needs are identified or will be addressed with this project.

#### **II.C.2.c. Transportation Plans**

This project is not part of any statewide or other long-range transportation plans. Improvements to Forest Home Drive and the intersection with Caldwell Road are the subject of the *Forest Home Traffic Calming Plan*. Notable elements of the plan included retention of the existing bridge as a traffic calming feature, community entrance features, narrowing of lane and intersection widths, and improvements to pedestrian and bicycle facilities.

### **II.D. Project Objectives**

In order to satisfy the need for the project and maintain the public investment in the road system, the project must provide cost-effective solutions to the existing deficiencies, while minimizing social, economic, and environmental impacts.

1. Eliminate the structural deficiencies of the existing bridge using a cost effective design to ensure an unposted structural condition for at least 20 years.
2. Preserve the historic character of the existing bridge.
3. Correct existing pedestrian mobility and ADAAG compliance deficiencies.

## CHAPTER III - ALTERNATIVES

### III.A. Design Criteria

The minimum design criteria for critical design elements, which serve as the basis for developing and evaluating the design alternatives, are shown in Table III-1. The NYSDOT *Bridge Manual* (BM) and *Highway Design Manual* (HDM) were used to establish these criteria:

Table III-1 Design Criteria vs. Existing and Proposed Conditions						
PIN:		3950.41		NHS (Y/N):		N
Route No. & Name:		Forest Home Drive		Functional Class:		Urban Minor Arterial
Project Type:		Bridge Rehabilitation		Design Classification (AASHTO Class)		Arterial
% Trucks:		Posted No Trucks		Terrain:		Rolling
ADT:		4,084		Truck Access Rte.:		Posted No Trucks
Element		Standard Criteria	Reference	Existing Conditions	Proposed Alt. 2	Proposed Alt. 3
1	Design Speed	35 mph min. 60 mph max.	HDM §2.7.2.2 A	22-35 mph 85th% see §II.C.1.g.(2)	35 mph	35 mph
2	Highway Lane Width	9 ft.	BM §2.3.1	9-10 ft.	9 ft.	9 ft.
3	Shoulder Width: Right (rolling & level) =	0 min. 1 ft. to 2 ft. desirable	HDM §2.7.2.2 C BM §2.3.5	1-2 ft.	1'-6"	1'-6"
4	Bridge Roadway Width	14'-0" min.	BM §2.3.1	15'-2"	15'-2"	14'-0"
5	Grade	8% max.	HDM §2.7.2.2 E	4.20%	4.20%	4.20%
6	Horizontal Curvature	371 ft @ e=4%	HDM §2.7.2.2 F	160 ft. *	160 ft. *	160 ft. *
7	Superelevation Rate	4% max.	HDM §2.7.2.2 G	4%	4%	4%
8	Stopping Sight Distance (Horizontal & Vertical)	250 ft.	HDM §2.7.2.2 H	120 ft *	120 ft*	120 ft*
9	Horizontal Clearance Without barrier = With Barrier =	1.5 ft. 0	HDM §2.7.2.2 I	2 ft 0	2 ft. 0	2 ft. 0
10	Vertical Clearance	14'-0" min. 14'-6" desirable	BM §2.4.1	15'-4"	15'-4"	15'-4"
11	Pavement Cross Slope	1.5-2%	HDM §2.7.2.2 K	0-3%	2%	2%
12	Rollover - between lanes = At edge of traveled way =	4% max. 8% max.	HDM §2.7.2.2 L	4% max. 0	4% max. 0	4% max. 0
13	Structural Capacity	HS 20	BM §2.6.2	HS 14	HS 15	HL-93
16	Pedestrian Accommodations	Comply with ADAAG	HDM §2.7.2.2 N	Non-Compliant	Compliant	Compliant

\* Nonstandard Feature

Table III-2 Other Controlling Parameters				
Element		Reference	Criteria	Proposed Condition
a	Design Vehicle	HDM § 5.7.1.1	SU	P
b	Level of Service (non-Interstate)	HDM § 5.2.2.1	C Des D Min	C
c	Design Storm:	HDM Chapter 8	50 yrs	50 yrs
	Culverts =	HDM Chapter 8	5 yrs	5 yrs
	Storm Drainage Systems =	HDM Chapter 8	10 yrs	10 yrs
	Ditches =	HDM Chapter 8		

### III.B. Alternatives Considered

Project alternatives were developed to meet the project objectives. The alternatives were developed using the engineering design criteria in Section III.A of this report. All reasonable alternatives were considered.

The range of alternative solutions considered includes:

**Alternative 1 - THE NO BUILD "NULL" ALTERNATIVE.** This alternative provides for only continued maintenance of the bridge. This will inevitably lead to the closing of the structure to traffic. This alternative was considered and rejected as it does not address most of the project objectives in §II.D of this report.

**Alternative 2 - CONVENTIONAL REHABILITATION.** This alternative involves rehabilitating the bridge in its current structural configuration, except that the walkway would be supported by an independent structure. Although the condition of the bridge would be significantly improved, the current load posting of 15 tons would remain. This alternative is considered feasible as it meets all of the project objectives, except for the load capacity. Refer to Section III.C of this report for detailed description and engineering considerations.

**Alternative 3 - SUPERSTRUCTURE REPLACEMENT.** This alternative involves the construction of a modern structurally redundant multi-girder superstructure within the truss, similar to the downstream Forest Home Drive Bridge. The walkway would be supported on cantilever sidewalk brackets attached to the multi-girder superstructure. The existing trusses would remain for esthetic purposes. This alternative is considered feasible as it meets all of the project objectives. Refer to Section III.C of this report for detailed description and engineering considerations.

### III.C. Feasible Alternatives

All feasible alternatives are under consideration. A decision will be made after comments from various involved agencies, as well as comments from the public have been fully evaluated.

### III.C.1. Description of Feasible Alternatives

**Alternative 2 - CONVENTIONAL REHABILITATION.** The bridge's floor system, bridge railing, and bottom chords of the trusses would be replaced in-kind. All new and existing steel members would be cleaned and painted. The clear bridge roadway width would continue to be approximately 15 feet and the vertical clearance would continue to be 15'-3". The load posting of 15 tons would remain.

The walkway structure would be entirely replaced and supported on two steel girders. The walkway surface would be concrete, stained and stamped to provide a timber-like appearance. The railings on the walkway would be latticed steel railings with ornamental posts at the ends, similar to those present on the downstream bridge. All steel walkway structure members would be painted to match the truss bridge.

The existing abutment stems and upstream wingwalls would be replaced with reinforced concrete walls founded on bedrock. The faces of the walls would be formed with form-liners that would create a stone-like appearance, consistent with the existing laid-up stone walls along the creek.

The approach roadway would be reconstructed for a length of 100 feet on the west approach and 250 feet on the east approach. The approaches would have 9'-0" wide lanes and 1'-6" wide shoulders. A 6" high granite curb would be provided along the upstream side of the roadway with 5'-0" wide concrete walkway, set back from the curb 1'-6". New retaining walls would be constructed along adjacent to the walkway to retain the widened embankment in the area of the walkways. The retaining walls will be either segmental concrete block walls or stone-faced concrete retaining walls.

The existing water main on the bridge and approaches would be replaced in-kind. The water main would be supported by the walkway structure over the creek. The existing sanitary sewer line would remain in place on the downstream face of the truss.

Refer to Appendix A for drawings of this alternative.

**Alternative 3 - SUPERSTRUCTURE REPLACEMENT.** The existing roadway floor system would be removed and replaced with a steel multi-girder superstructure with a composite concrete deck. The new superstructure would span the creek independently of the existing trusses, which would remain in place, attached to the new superstructure with a flexible connection. To accommodate the depth of the new superstructure and minimize the impacts on the approaches, a vertical curve would be introduced across the bridge. The steel girders would vary in depth. The top flanges of the girders would follow the vertical curve and the bottom flanges would be straight. The new girders would be weathering or painted steel. All existing steel members would be cleaned and painted. The bridge roadway width between curbs would be approximately 14 feet and the vertical clearance would be 15'-4". The bridge would have a standard load capacity (45 ton design vehicle) and therefore would not require a weight restriction.

The walkway structure would be supported on cantilever sidewalk brackets attached to the multi-girder superstructure. The walkway surface would be timber planks. The railings on the walkway would be latticed steel railings similar to those present on the downstream bridge. The latticed steel railing would be extended off the bridge to a logical terminus. All steel walkway structure members would be painted to match the truss bridge.

The existing abutment stems and upstream wingwalls would be replaced with reinforced concrete walls founded on bedrock. The faces of the walls would be formed with form-liners that would create a stone-like appearance, consistent with the existing laid-up stone walls along the creek.

The approach roadway would be reconstructed for a length of 100 feet on the west approach and 250 feet on the east approach. The approaches would be raised approximately 1'-0" at each abutment to accommodate the increased depth of the superstructure. The approaches would have 9'-0" wide lanes and 1'-6" wide shoulders. A 6" high granite curb would be provided along the upstream side of the roadway with 5'-0" wide concrete walkway, set back from the curb 1'-6". New retaining walls would be constructed along adjacent to the walkway to retain the widened embankment in the area of the walkways. The retaining walls will be either segmental concrete block walls or stone-faced concrete retaining walls.

The existing water main on the bridge and approaches would be replaced in-kind. The water main would be supported by the new multi-girder structure. The existing sanitary sewer line would remain in place on the downstream face of the truss.

Refer to Appendix A for drawings of this alternative.

### **III.C.2. Engineering Considerations of Feasible Alternatives**

#### **III.C.2.a. Special Geometric Features**

(1) **Non-Standard Features:** Several non-standard features within the project limits described in §II.C.1.j. would be retained under both alternatives:

- a. **Bridge Roadway Width:** The bridge roadway cannot be widened without eliminating the existing trusses, and causing extensive impacts on adjacent properties. The existing trusses and the one-lane configuration of the bridge are contributing elements to the Forest Home Historic District.
- b. **Horizontal Curvature:** The radius of the curve on the west approach cannot be corrected without causing extensive impacts on adjacent properties.
- c. **Stopping Sight Distance (Horizontal):** The SSD on the northerly approach to the existing bridge will continue to be limited by the proximity of utility poles, vegetation, and the bridge truss. The sight distance limitation can not be corrected without realignment of the roadway approach, widening of the structure, and extensive vegetation removal.

In addition, Alternative 2 also retains the following non-standard feature:

- d. **Structural Capacity:** The existing 15 ton weight restriction would be retained because the existing truss structure cannot be strengthened to current standards without replacing the entire structure.

Justification forms for the retained non-standard features are included in Appendix G.

(2) **Non-conforming Features:** One non-conforming feature within the project limits described in section II.C.1.j. would be retained.

- a. Headlight Sight Distance: HSD on the sag vertical curve located near the intersection of Caldwell Road would remain less than desirable; however, the existing intersection lighting would continue to provide mitigation.

### **III.C.2.b. Traffic Forecasts, Level of Service and Safety Considerations**

#### **(1) Design Year Traffic Volume and Levels of Service:**

- a. Design Year Traffic Volume: Design year traffic volumes are expected to be the same as the future no-build design year volumes presented in Chapter II. The improvements occurring as a result of this project are not expected to draw additional traffic to this route.
- b. Design Year Level of Service: Roadway design year LOS are expected to be the same as future no-build design year traffic volumes presented in Chapter II.

#### **(2) Safety and Traffic Control Considerations:**

- a. Signs: Existing signs in poor condition would be replaced. Additional devices, including curve warning and advisory speed signs, would be added where warranted.
- b. Pavement Markings: Yellow full barrier lines would be placed throughout the project limits. High-visibility crosswalk markings would be installed at the intersection with Caldwell Road.

### **III.C.2.c. Pavement**

Pavement would be reconstructed full depth with a 12-inch subbase course, 3-inch HMA base course, 2-inch HMA binder course, and 1½-inch HMA top course to accommodate the change in profile grade.

Refer to Appendix A for a typical pavement section.

### **III.C.2.d. Structures**

#### **Alternative 2 - Conventional Rehabilitation**

The entire existing floor system would be replaced in-kind, including the open steel grating, stringers, transverse floorbeams, floorbeam hangers, and stringer bearings. The new floor system would be designed for HS 20 loading.

The entire bottom chords of the trusses would be replaced, along with all lower gusset plates, bottom lateral bracing, and bearings. The end posts of the trusses would also be repaired, along with various other minor repairs to the trusses. The repairs would result in a truss live load capacity of HS 15, due to the limited strength of the existing top chord and the truss connections.

The bridge walkway would no longer be supported by cantilever extensions of the floorbeams. The walkway would be supported on two steel girders. The girders would also support the water main. The walkway surface would consist of a concrete deck slab, made composite with the girders through the use of shear studs. The surface of the walkway would be stained and stamped to

provide a timber-like appearance. The railings on the walkway would be latticed steel railings with latticed posts. The existing sanitary sewer line would remain in place on the downstream face of the truss.

The existing abutments and upstream wingwalls would be replaced by cantilever reinforced concrete walls founded on spread footings. The footings would be founded on bedrock, which is present near the streambed level. Formliners would be used on the exposed faces of the walls to provide a stone-like appearance.

The steel on the entire bridge would be cleaned and painted.

The structural advantages of Alternative 2 include:

- The walkway loads would no longer be supported by the truss.
- The water main would no longer be supported by the truss.
- The abutments would be new and founded entirely on rock.
- The concrete walkway would require less maintenance than the current timber walkway.

The structural disadvantages of Alternative 2 include:

- The open steel grating would allow rapid deterioration of the floor framing.
- The truss would still contain fracture critical members, whose failure could cause a complete collapse of the bridge.
- The bridge would have a low live load capacity, increasing the likelihood of damage or failure due to overloads.
- The bridge would have very little reserve capacity. Any future deterioration would likely result in greater weight restrictions.

### Alternative 3 - Superstructure Replacement

The entire existing floor system would be replaced by a new multi-girder superstructure with a composite concrete deck. The girders would be variable depth in order to limit the amount that the approach roadway would need to be raised. The top flanges of the girders would follow the vertical curve and the bottom flanges would be straight. The girders would be approximately 42" deep at mid-span and 32" deep at the centerline of bearing. The new girders would be weathering or painted steel and would be designed for an HL-93 live load.

The existing trusses would remain in place for esthetic purposes. In order to accommodate the raising of the roadway profile and provide clearance for the sidewalk brackets, the trusses will be raised approximately 1'-6". Since the bottom lateral bracing would be eliminated, the trusses would need to be laterally braced to the new superstructure. Severely deteriorated members on the existing trusses would be replaced and the trusses would be cleaned and painted.

The walkway structure would be supported on cantilever sidewalk brackets attached to the multi-girder superstructure. The walkway surface would be timber planks. The railings on the walkway would be latticed steel railings similar to those present on the downstream bridge. The latticed steel railing would be extended off the bridge to a logical terminus. All steel walkway structure members would be painted to match the truss bridge.

The existing abutments and upstream wingwalls would be replaced by cantilever reinforced concrete walls founded on spread footings. The footings would be founded on bedrock, which is present

near the streambed level. Formliners would be used on the exposed faces of the walls to provide a stone-like appearance.

The structural advantages of Alternative 3 include:

- The superstructure would be structurally redundant.
- The solid concrete deck would protect the girders from deterioration.
- The bridge would have a standard live load capacity.
- The bridge would have significant reserve load capacity. A very significant amount of deterioration would need to occur to warrant a weight restriction on the bridge.
- The abutments would be new and founded entirely on rock.

There are no structural disadvantages of Alternative 3.

### **III.C.2.e. Hydraulics**

Neither alternative would have an impact on the 50-year or 100-year flows through the structure. Both alternatives would, however, result in a lower "low chord" elevation, reducing the amount of available freeboard over design storms. The "low chord" is defined as a major horizontal obstruction to flow, as opposed to intermittent projections below the structure, such as the existing transverse floorbeams. NYSDOT policy recommends a minimum freeboard over the 50-year design storm of 2.0 feet.

The low chord for Alternative 2 would be the bottom of the walkway structure girders, which would be at elevation 832.8, the elevation of the bottom of the existing transverse floorbeams. This would result in a freeboard of 2.2 feet over the 50-year design storm and a freeboard of 1.3 feet over the 100-year storm.

The low chord for Alternative 3 would be the bottom of the roadway structure girders, which would be at elevation 833.0. This would result in a freeboard of 2.4 feet over the 50-year design storm and a freeboard of 1.5 feet over the 100-year storm.

### **III.C.2.f. Drainage**

Existing drainage deficiencies would be corrected, where practical, as part of all feasible alternatives. Catch basins and closed drainage would be added in locations with new curb where determined during the final design phase of the project.

### **III.C.2.g. Maintenance Responsibility**

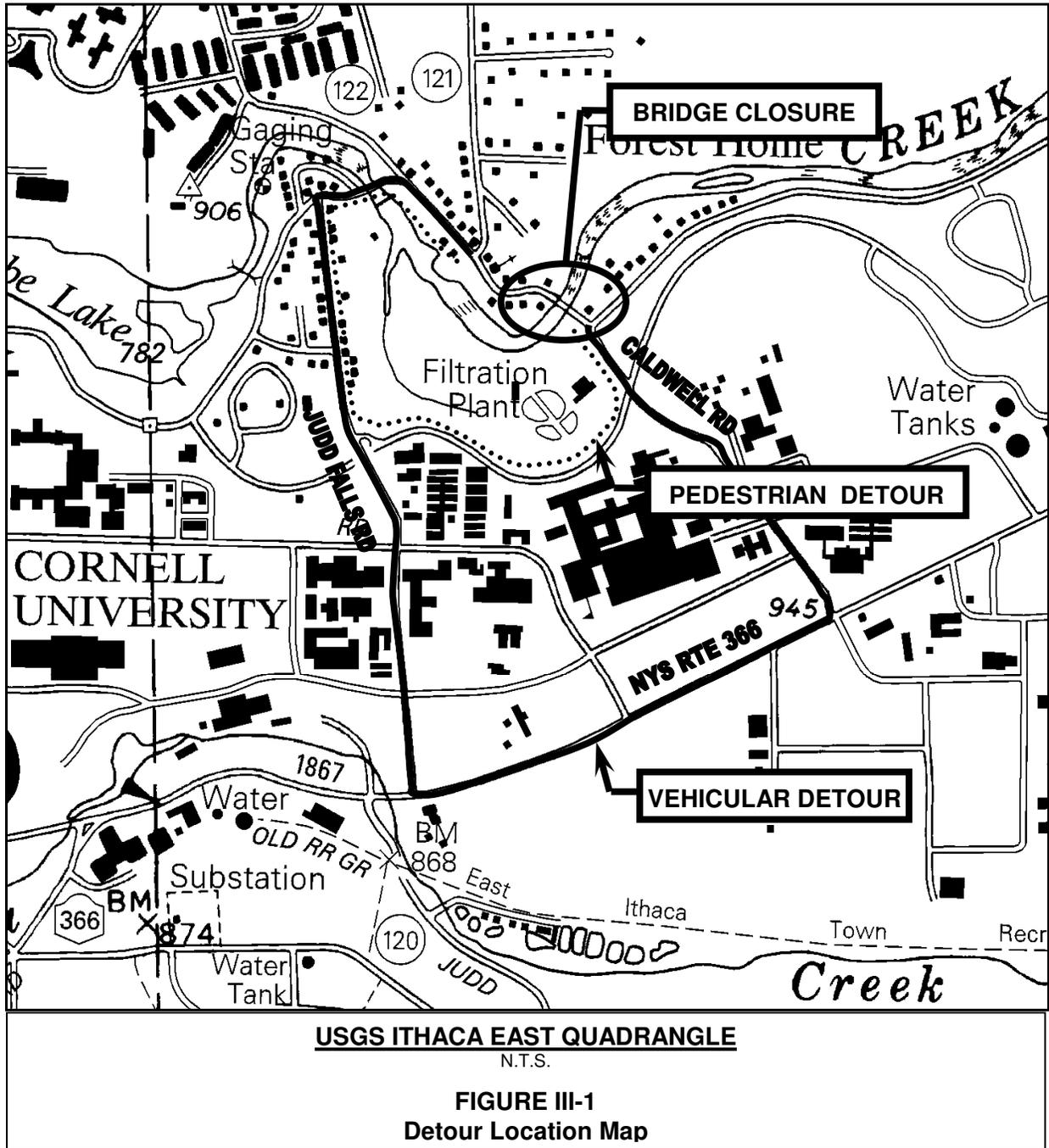
Ownership and maintenance responsibility will remain as described in §II.C.1.b. It is anticipated that Tompkins County would pursue the transfer of maintenance responsibility of the pedestrian bridge (Alt. 2), non-load bearing trusses (Alt. 3), and decorative components to the Town of Ithaca.

### **III.C.2.h. Work Zone Traffic Control**

Vehicular traffic would be controlled throughout the construction of this project through the use of an off-site detour. The detour route has a length of 1.8 miles and would follow Forest Home Drive, Judd Falls Road, Dryden Road (Route 366), and Caldwell Road.

Pedestrians would be detoured along a 0.9 mile route along Forest Home Drive, Judd Falls Road, Plantations Road, and Caldwell Road.

See Figure III-1 for a Detour Location Map.



**III.C.2.i. Soils and Foundations**

The new abutments for both alternatives would be founded on bedrock, which is located near the streambed elevation.

### III.C.2.j. Utilities

Various underground and overhead utilities would be impacted by the project. Impacts to private utilities, including electric, gas, telephone, and cable television, would be coordinated with the respective owners for relocation. Impacts to public utilities, including water and sanitary sewers, would be included in the project. A final utility conflict inventory should be completed during the final design phase of the project to determine impacts to the above-mentioned facilities.

Both the existing water main and sewer force-main carried by the bridge would be replaced as part of this project.

### III.C.2.k. Railroads

There are no railroads located within the project limits.

### III.C.2.l. Right-of-Way

Minor permanent easements would be required for construction and future maintenance of both design alternatives. The anticipated easements are listed in the table below.

Table III - 3 Right-of-Way					
Alt.	Property	Owner	Type of Acquisition	Total Parcel Area (AC)	Estimated Acquisition Area (AC)
2,3	TA 66-3-13	Alan & Julia Fletcher	PE	0.72	0.03
2,3	TA 66-3-14	Cornell University	PE	2.20	0.11
2,3	TA 66-3-15	William F. Shipe	PE	1.24	0.03
2,3	TA 67-1-8	Cornell University	PE	26.39	0.06

### III.C.2.m. Landscape Development

Existing vegetation within the project construction area to remain would be protected, pruned, and fertilized as necessary. Minor vegetation removal would be required to accommodate the proposed improvements and utility relocations.

Minor landscape improvements will be made on the northwest, northeast, and southwest quadrants of the bridge in order to reduce the impacts of mature vegetation removal, as well as to enhance the screening of the bridge and roadway from the adjacent residences.

### III.C.2.n. Provisions for Pedestrians

Pedestrians would be accommodated on the continuous walkway located on the north side of the roadway and bridge. The proposed walkway would close a gap in the existing pedestrian walkway system and would provide improved, safer access to the Cornell Plantations from points northwest of Fall Creek. Detectable warning surfaces would be installed on all sidewalk ramps to comply with ADAAG requirements.

**III.C.2.o. Provisions for Bicycling**

Bicyclists would be accommodated on the proposed travel lanes and shoulders.

**III.C.2.p. Lighting**

The community has expressed a desire for “pedestrian scale” lighting for the walkways on the bridge approaches. The feasibility of such lighting will be investigated during final design.

**III.D. Project Costs & Schedule**

**III.D.1. Costs**

The estimated project costs for the feasible alternatives are included in Table III-4.

<b>Table III-4 Estimated Project Costs</b>			
<b>Activities</b>		<b>Alternative 2</b>	<b>Alternative 3</b>
<b>Construction Costs</b>	Roadway	\$ 182,000	\$ 182,000
	Bridge	\$ 1,053,000	\$ 816,000
	Utilities	\$ 36,000	\$ 84,000
<b>Subtotal</b>		<b>\$ 1,271,000</b>	<b>\$ 1,082,000</b>
<b>Right of Way Incidentals</b>		<b>\$ 6,000</b>	<b>\$ 6,000</b>
<b>Right of Way Acquisition</b>		<b>\$ 6,000</b>	<b>\$ 6,000</b>
<b>Total Project Costs</b>		<b>\$ 1,283,000</b>	<b>\$ 1,094,000</b>

More detailed cost information is included in Appendix H. Construction funding for this project will be a blend of federal Transportation Enhancement Program (TEP) allocations and local funds.

**III.D.2. Schedule**

The following are considered key project dates:

Design Approval..... April, 2010  
 Project Advertisement..... October, 2010  
 Bid Opening .....November, 2010  
 Construction Complete .....November, 2011

## **CHAPTER IV - SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS**

### **IV.A. Introduction**

#### **IV.A.1 National Environmental Policy Act (NEPA) Class and Lead Agency**

The project is classified as a Class II action under United States Department of Transportation (USDOT) NEPA Regulations, 23 CFR 771.115(c). A NEPA checklist was prepared for the project and the checklist is attached in Appendix B. The project complies with the requirements of a Programmatic Categorical Exclusion; therefore, further environmental review under NEPA is not required. The Federal Highway Administration is the NEPA lead agency.

#### **IV.A.2 State Environmental Quality Review (SEQR) Act Type and Lead Agency**

This project has been progressed as an unlisted action in accordance with 6 NYCRR Part 617, SEQR Act. For completeness, a Short Environmental Assessment Form (SEAF) has been prepared and is included in Appendix B. Tompkins County is the SEQR lead agency.

### **IV.B. Social, Economic and Environmental Consequences**

There are no significant environmental impacts as indicated in the NEPA Assessment Checklist and the SEAF in Appendix B. The following sections contain supporting documentation.

#### **IV.B.1 Social Consequences**

##### **IV.B.1.a. Affected Population**

The subject project corridor is located within historic Forest Home, a hamlet of the Town of Ithaca and includes the bridge which carries Forest Home Drive over Fall Creek. The land use west of the bridge is primarily residential, impervious surfaces (roadway and driveways), and manicured lawns and landscaped areas. Land use east of the bridge primarily consists of residential, impervious surfaces (roadways and entrance drives), and educational/recreational areas currently owned by Cornell University.

Proposed construction activities involve the rehabilitation of the existing bridge and will include the construction of a new multi-girder steel superstructure within the existing truss framework and new concrete abutments. The existing abutment stems and upstream wingwalls will be replaced with reinforced concrete walls founded on bedrock. A new cantilevered pedestrian walkway along the upstream side of the bridge will replace the existing cantilevered sidewalk. The proposed walkway will close the existing gap in the pedestrian walkway system and will provide improved, safer access to the Cornell Plantations from points northwest of Fall Creek. New bridge and approach railing will be installed. The installation of new crosswalks at the Caldwell Road intersection will also occur during proposed rehabilitation activities.

A signed off-site detour for both vehicular and pedestrian traffic will be utilized to maintain and protect traffic during proposed construction activities. The vehicular detour route is approximately 1.8 miles and will utilize Forest Home Drive, Judd Falls Road, Dryden Road, and

Caldwell Road. Pedestrian traffic will be detoured along a 0.9 mile route that will utilize Forest Home Drive, Judd Falls Road, Plantations Road, and Caldwell Road. Please refer to Figure III-1 for the Detour Location Map. The traveling public is expected to experience a short-term change in travel patterns as a result of the proposed off-site detours.

Four (4) permanent right-of-way (ROW) acquisitions will be required for the construction and future maintenance of the subject bridge (reference Table III-3). As defined by the NEPA, a minor amount of ROW is defined as not more than 10 percent of a parcel for parcels under 10 acres in size, and 1 acre of a parcel up to 100 acres in size. The proposed acquisitions will not exceed one acre or 10 percent of the affected parcels and are considered minor with regard to the NEPA. It should be noted that driveway access to residences and Cornell University facilities within the project area will remain open at all times. As such, the proposed project will not have a significant effect on adjacent property owners.

#### **IV.B.1.b. Local Planning Processes**

The proposed project involves the rehabilitation of the bridge that carries Forest Home Drive over Fall Creek and associated approach work. An off-site detour will maintain traffic flow during proposed rehabilitation activities. It is expected that the project will not have a significant effect on local land use plans. The primary objectives of the project are to eliminate the existing bridge's structural deficiencies while preserving the historic appearance of the bridge. Additional objectives include improving pedestrian safety on the approaches and improving the durability of the structure, thereby reducing future maintenance needs.

#### **IV.B.1.c. Community Cohesion**

As indicated above, an off-site detour will be utilized to maintain vehicular and pedestrian traffic throughout the duration of the construction period. Upon completion of the project, the new bridge will be opened and traffic patterns will resume to normal. In addition, the proposed pedestrian walkway will provide improved, safer access to the Cornell Plantations from points northwest of Fall Creek. As such, the proposed bridge rehabilitation project will not divide or isolate neighborhoods or portions of neighborhoods, generate new development or otherwise have an effect on community cohesion.

#### **IV.B.1.d. Changes in Travel Patterns or Accessibility**

The proposed project will not permanently alter the existing travel patterns in the project area nor will it have any permanent effects on vehicular or pedestrian accessibility within the local area. As stated above, off-site detours will be utilized to maintain vehicular and pedestrian travel; as such, a minor change in travel patterns is anticipated during the construction period. Upon completion of the project, travel patterns and accessibility will return to normal.

#### **IV.B.1.e. Impacts on School Districts, Recreational Areas, Churches or Businesses**

As previously stated, property owned by Cornell University (Cornell Plantations), and currently used for educational/recreational use is located east of the bridge. The entrance drive for the Mundy Wildflower Garden, Horticultural Center, and Gardening and Natural Areas staff offices is located within proposed project limits. The F.R. Newman Arboretum (also associated with Cornell Plantations) is located along the north side of Caldwell Road; access to the arboretum is located outside the project corridor. The entrance drives for the above mentioned facilities will remain open at all times, ensuring unlimited access throughout the duration of the construction

period. Temporarily severing cross-creek access to the Plantations and Forest Home Chapel will be mitigated by providing a short off-site detour. Postal Service and Ithaca City School district transportation officials will be notified prior to the start of construction so mail and bus routes may be altered as needed. Advance notice of closure will be posted at the bridge so delivery businesses may be warned of the need of minor rerouting prior to construction. As such, significant adverse impacts on school districts, recreational areas, churches, or businesses are not anticipated. Upon completion of the project, travel patterns will return to normal.

#### **IV.B.1.f. Impacts on Police, Fire Protection and Ambulance Access**

As previously stated, traffic will be maintained via an off-site detour. All affected agencies will be notified of the selected maintenance and protection of traffic scheme. Additionally, emergency services shall be notified once construction activities begin. The Tompkins County Sheriff's Department, Cornell University Police, Ithaca Fire Department and ambulance companies will be contacted to determine whether the detour route would have a significant increase on response time. Upon completion of the project, travel patterns will return to normal.

#### **IV.B.1.g. Impacts on Highway Safety, Traffic Safety and Overall Public Safety**

The proposed project involves the rehabilitation of the existing bridge to eliminate the bridge's structural deficiencies and provide a safe crossing for vehicular and pedestrian traffic over Fall Creek. Ultimately, the proposed rehabilitation project will have a positive effect on traffic and overall public safety.

#### **IV.B.1.h. General Social Groups Benefited or Harmed**

- (1) **Effects on Elderly & Disabled Persons:** This project will not have an adverse effect on elderly or disabled persons.
- (2) **Effects on Low Income, Minority and Ethnic Groups:** This project will not have a disproportionately high and adverse health and environmental effect on minority or low income populations.

#### **IV.B.2 Economic Consequences**

##### **IV.B.2.a. Impacts on Regional and Local Economies**

Due to the nature of the proposed project and the fact that proposed ROW acquisitions are considered minor with regard to the NEPA, it has been determined that the proposed project is not of a scale that would affect the regional and local economy.

##### **IV.B.2.b. Impacts on Existing Highway / Related Businesses**

There are no highway related businesses such as gasoline stations, convenience marts or fast food restaurants located within the project limits; therefore, no impacts on existing highway/related businesses are anticipated.

##### **IV.B.2.c. Impacts on Established Business Districts**

Since there are no business districts within the project limits, related impacts are not expected.

#### IV.B.2.d. Relocation Impacts

As previously stated, four (4) minor permanent right-of-way acquisitions will be required under the proposed project; however, no residential relocations will be necessary.

#### IV.B.3 Environmental Consequences

##### IV.B.3.a. Surface Waters / Wetlands

- (1) **Surface Waters:** The subject project involves the rehabilitation of the existing bridge over Fall Creek. Fall Creek flows generally south and passes beneath Forest Home Drive within the project area. A U.S. Army Corps of Engineers (USACE) Section 404 Permit will be required to authorize impacts below the ordinary high water elevation of Fall Creek.

A New York State Department of Environmental Conservation (NYSDEC) Section 401 Water Quality Certificate is issued for any project that requires a USACE Section 404 permit. Construction activities will require authorization under a Section 404 permit; therefore, this project will also require a NYSDEC Water Quality Certificate.

A NYSDEC Article 15 Protection of Waters Permit is required for disturbing the bed or banks of a stream with a classification of C(t) or higher. The subject portion of Fall Creek within the project limits upstream of the subject bridge is classified by the NYSDEC as a Class A stream. Fall Creek is classified as a Class B stream at the bridge and downstream. As such, the project will require coverage under an Article 15 Protection of Waters Permit. As indicated by the NYSDEC, in-stream work restriction dates would be in effect from July 15<sup>th</sup> – September 15<sup>th</sup> of the calendar year.

- (2) **Navigable Waters:** If a project involves any work in, over, or under navigable waters of the United States, a Section 10 permit is required. According to the list of Navigable Waterways in the Buffalo District, the USACE does not recognize Fall Creek as a navigable waterway. Since the project will not involve construction activities in a navigable waterway as defined by the USACE, a Section 10 permit will not be required.

Since the project involves the rehabilitation of an existing bridge and the United States Coast Guard (USCG) does not recognize Fall Creek as a navigable waterway, a Section 9 permit will not be required.

- (3) **Coastal Zone:** The project is not located within a Coastal Area as defined by New York State Department of State (NYSDOS) Coastal Zone Management regulations, 19 NYCRR Part 600. Therefore, the proposed project does not need to be evaluated with respect to consistency with the New York State Coastal Management Program.

The NYSDOS administers New York's Waterfront Revitalization Program and Coastal Resources Act, which is derived from the federal Coastal Zone Management Act. According to the NYSDOS Local Water Front Revitalization Plan (LWRP) Status Sheet, the Town of Ithaca does not have a LWRP; therefore, coordination with the NYSDOS is not required.

- (4) **Wild, Scenic and Recreational Rivers:** Fall Creek is not listed on the National Register of Wild, Scenic or Recreational Rivers as possessing one or more “outstandingly remarkable values”; therefore, coordination with the National Park Service is not required.

One segment of Fall Creek is listed on the Summary List of Rivers in the New York State Wild, Scenic and Recreational Rivers System as a recreational river. Fall Creek is classified as recreational “from the southern boundary of Cayuga Lake to the west face of the foot bridge running across Fall Creek, which foot bridge is located between Thurston Avenue on the west and Beebe Lake on the east.” Proposed project activities will not take place within this section of Fall Creek; therefore, coordination with the Wild, Scenic and Recreational Rivers Act will not be required.

Refer to §IV.B.3.f for Section 4(f).

- (5) **Flood Plains:** The Flood Hazard Boundary Map dated June 19, 1985 for the Town of Ithaca (Community Panel 360851 0022 C) was reviewed. The Federal Emergency Management Agency (FEMA) mapping indicates that the subject bridge, which is situated over Fall Creek, is located within Zone A5, which is identified by FEMA as a 100-year flood zone or located within a designated floodway. At the project site, the land west of the creek and the majority of land located east of the creek is situated within Zone C, which is identified by FEMA as a moderate to low risk area that is located outside of the 100-year flood zone. A small portion of the project limits east of the creek is located within Zone B, which is identified by FEMA as areas between the limits of the 100-year and 500-year flood zone. The proposed bridge rehabilitation work will maintain the existing bridge opening and will therefore not adversely affect the freeboard or the waterway opening. As such, the proposed project will not result in an increase in base flood elevations and is consistent with 6 NYCRR Part 502 and Executive Order 11988.

Executive Order 11988 dictates that actions shall be taken to reduce the risk or to minimize the impacts of floods on human safety, health, welfare and to restore and preserve natural and beneficial values served by floodplains in carrying out projects. The order also states that the potential effects of any actions taken on a floodplain need to be evaluated. As stated above, it is anticipated that the proposed project will not significantly impact the floodplain or result in an increase in flood levels. A hydraulic analysis was not performed since the existing bridge opening will be maintained.

Based on the information presented above, the project meets the floodplain management criteria for state projects outlined in 6 NYCRR Part 502 and the Floodplain Administrator will issue a development permit.

- (6) **Wetlands:** There are no tidal wetlands located within the project corridor. Shumaker Consulting Engineering & Land Surveying, P.C. (SCE) reviewed the United States Department of Interior, Fish and Wildlife Service National Wetland Inventory (NWI) Map for the Ithaca East USGS quadrangle. No freshwater wetlands were identified within the project limits. Fall Creek is a “Waters of the United States” and is depicted on the NWI Map as a permanent riverine wetland.

A review of NYSDEC Article 24 Freshwater Wetlands Mapping for the Ithaca East USGS quadrangle indicates that there are no known state-regulated wetlands present within the project corridor.

Based on the site investigation, conducted on January 7, 2008, and review of the Tompkins County Soil Survey, the NWI map and the NYSDEC Freshwater Wetlands Map, it was determined that with the exception of Fall Creek, there are no federal or state regulated wetlands/waterbodies located within the project limits. Although Fall Creek is identified on the NWI map as a riverine wetland (R3UBH), the waterbody is regulated as a stream under Section 404 of the Clean Water Act.

The project corridor is not located within the Delaware River Basin, and will not have any wetland impacts; therefore, review of the project by the Delaware River Basin Commission will not be required.

Compliance with Presidential Executive Order 11990 is required for federal-aid projects that involve permanent fill in wetlands requiring a USACE Individual or Nationwide Permit. Since the project will not impact regulated wetlands, compliance with Executive Order 11990 will not be required.

#### **IV.B.3.b. Water Source Quality**

- (1) **Groundwater:** Since the proposed project does not involve salt storage, recharge basins or rest areas, the proposed project will not have a significant affect on groundwater quality. Furthermore, the project involves the rehabilitation of an existing bridge; therefore, groundwater impacts are not expected.
- (2) **Surface Water:** Fall Creek is the only major surface water body within the project limits. The creek flows generally south, and passes beneath Forest Home Drive within the project area. The NYSDEC classifies Fall Creek as a Class A stream upstream of the subject bridge; Fall Creek is classified as a Class B stream at the bridge and downstream. As contained in 6 NYCRR, Chapter X, the best use of Class A waters is for drinking water. The expected best usage for Class B waters is primary and secondary contact recreation and fishing. These waters are also suitable for fish propagation and survival.

As indicated by the NYSDEC, Cornell University has a primary drinking water intake upstream of the subject project and a secondary drinking water intake downstream of the project limits. Prior to any in-stream work, contact should be made with Cornell University to determine the status of their drinking water intake to ensure that potential impacts will not occur.

Due to the nature of the project, existing overall surface water drainage patterns will be maintained. The project will not result in additional travel lanes or a significant increase in impervious surface area; therefore, significant increases in surface water runoff rates and volumes are not anticipated.

During construction, there is an increased potential for storm water runoff from exposed soil surfaces to flow into Fall Creek. Project plans shall address erosion and sediment control practices to minimize the potential for surface water impacts to occur as a result of any work within or near the creek. These management practices

- should be incorporated into an Erosion and Sediment Control Plan, which will be implemented during construction and will conform to the requirements of the NYS Department of Transportation Standard Specification for Temporary Soil Erosion and Water Pollution Control and the NYS Guidelines for Urban Erosion and Sediment Control. The Erosion and Sediment Control Plan will have to be submitted along with the required permit applications.
- (3) **Point Sources:** An open drainage system exists along the west side of the bridge; an open to closed system exists along the east side of the bridge. The existing bridge has an open steel grate deck. Drainage west of the bridge travels east toward Fall Creek via sheet flow. East of the bridge, open ditches and grass swales direct water west along Caldwell Road to a closed system, which directs drainage west towards Fall Creek. An open drainage system along Forest Home Drive (east of the bridge) travels south to a closed system, which then travels west toward Fall Creek. As stated above, Best Management Practices (BMPs) will be included in the Erosion and Sediment Control Plan to minimize the potential for pollutants to enter Fall Creek during proposed construction activities.
- (4) **Storm Water Discharge:** A NYSDEC State Pollutant Discharge Elimination System (SPDES) permit for construction activities is required if a project exceeds the current threshold disturbance area of 1 acre. The area of disturbance that may result from this project will not exceed 0.25 acre; therefore, a SPDES permit for construction will not be required.
- (5) **Reservoirs Supplying Water to NYC:** Based on review of the New York City Department of Environmental Protection (NYCDEP) Water Supply Maps, the project corridor is not located within a NYCDEP Watershed.
- (6) **Sole Source Aquifers:** According to available mapping, the project is not situated over a United States Environmental Protection Agency (USEPA) sole source aquifer or a NYSDEC primary aquifer or principal aquifer; as such, no further study or coordination with the USEPA or NYSDEC is required.

#### IV.B.3.c. General Ecology and Wildlife

Land use within the project corridor predominantly consists of residential, impervious surfaces, manicured lawns and landscaped areas, and educational/recreational areas. Dominant herbaceous vegetation observed within the project limits west of the bridge included grasses (*Poa spp.*), and Kentucky bluegrass (*Poa pratensis*). Sugar maple (*Acer sachharum*), Red pine (*Pinus resinosa*), and Norway spruce (*Picea abies*) comprised the dominant woody vegetation west of the bridge. Japanese knotweed (*Polygonum cuspidatum*), an invasive species, is also dominant within the project corridor, west of the subject bridge. Dominant herbaceous vegetation east of the bridge consisted mainly of grasses (*Poa spp.*), Kentucky bluegrass (*Poa pratensis*), Broadleaf plantain (*Plantago major*), Ground ivy (*Glechoma hederacea*), and Narrowleaf plantain (*Plantago lanceolata*). Dominant woody vegetation observed included Sugar maple (*Acer saccharum*), Red oak (*Quercus rubra*), and Canadian yew (*Taxus canadensis*).

Executive Order 13112 aims to; (1) prevent the introduction of invasive species; (2) provide for their control; and (3) minimize the economic, ecological, and human health impacts that invasive species cause. Under Executive Order 13112, federal agencies cannot authorize, fund or carry

out actions that it believes are likely to cause or promote the introductions or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered. As stated above, the invasive species Japanese knotweed (*Polygonum cuspidatum*) is present within the project limits. This species was observed west of the subject bridge, within close vicinity of the roadway. Proposed bridge rehabilitation activities may disturb these areas; if warranted appropriate measures to minimize the potential spread of this species will be employed throughout the duration of the rehabilitation activities. These measures may include minimizing areas of soil disturbance, implementing rapid and diligent erosion and sediment controls, and cleaning construction equipment prior to, and after, use within an area where invasive species are known to exist.

- (1) **Critical Environmental Areas:** Coy Glen, located in the Town of Ithaca, is the only Critical Environmental Areas (CEAs) listed for Tompkins County. This CEA is not located on-site or within the vicinity of this proposed bridge rehabilitation project; therefore, impacts to a CEA as a result of the proposed project will not occur.
- (2) **Fish and Wildlife:** Coordination with the NYSDEC and the United States Fish and Wildlife Service (USFWS) is required for federal aid or permitted construction projects. The details of the agency reviews are presented below.
- (3) **Forest Preserve Lands:** The project is not located within or adjacent to lands designated as forest preserve.
- (4) **Endangered or Threatened Species:** The USFWS List of Federal Endangered and Threatened Species in New York by County was reviewed and the NYSDEC, Division of Fish, Wildlife, & Marine Resources, New York Natural Heritage Program (NYNHP) was contacted to identify the potential for federal and/or state-listed endangered or threatened species to occur on site. A discussion of these findings is presented below.
- (5) **Endangered Species (Federal):** The USFWS list of Federal Endangered and Threatened Species in New York State by County lists the Bog turtle (*Clemmys muhlenbergii*), a federally threatened species, for Tompkins County. The Bog turtle, a semi-aquatic species, prefers a habitat that provides cool, shallow slow-moving water, deep muck soils, and tussock-forming vegetation. Based upon review of the vegetative community types within the project area, the type of habitat preferred by the Bog turtle, and the nature of the project, it has been determined that impacts upon the federally-listed Bog turtle are unlikely to occur.
- (6) **Endangered Species (State):** The NYSDEC Division of Fish, Wildlife, and Marine Resources Center, New York Natural Heritage Program was contacted regarding the presence of significant habitat areas and endangered and threatened species within the vicinity of the project. The NYSDEC Natural Heritage Program responded in their letter dated December 31, 2007 and identified 12 species that may occur on or within the immediate vicinity of the project site. Seven species of dragonflies and damselflies were identified and include: Mottled darner (*Aeshna clepsydra*), Tiger spiketail (*Cordulegaster erronea*), Spine-crowned clubtail (*Gomphus abbreviatus*), Midland clubtail (*Gomphus fraternus*), Rapids clubtail (*Gomphus quadricolor*), American rubyspot (*Hetaerina americana*), and Mocha emerald (*Somatochlora linearis*). Five (5) species of vascular plants were identified and include: Puttyroot (*Aplectrum hyemale*), Drummond's rock-cress (*Boechera stricta*), Blunt-lobe grape

fern (*Botrychium oneidense*), Swamp smartweed (*Persicaria setacea*), and Catfoot (*Pseudognaphalium helleri* ssp. *micradenium*). A copy of the agency response is included in Appendix E.

Dragonfly and damselfly larvae are aquatic and are found in open water habitat with sand, gravel, or rocky substrates; adult dragonflies and damselflies are terrestrial and are usually found in habitats surrounding lakes, streams, and rivers. The vascular plants identified prefer moist, rich woods [Blunt-lobe grape fern (*Botrychium oneidense*) and Puttyroot (*Aplectrum hyemale*)], upland forests [Catfoot (*Pseudognaphalium helleri* ssp. *micradenium*)], dry ledges [Drummond's rock-cress (*Boechea stricta*)], and sandy banks [Swamp smartweed (*Persicaria setacea*)].

Based upon review of the vegetative community types within the project area, the type of habitat preferred by the listed species, and the nature of the project, it has been determined that impacts upon state-listed endangered and threatened species are unlikely to occur.

- (7) **Wildlife and Waterfowl Refuges:** The project is not located within or adjacent to a Wildlife and Waterfowl Refuge.

#### IV.B.3.d. Historical and Cultural Resources

- (1) **National Historic Preservation Act (Section 106 Process):** In accordance with Section 106 of the National Historic Preservation Act, the following procedure must be followed for properties or sites on, or eligible for inclusion on, the National Register of Historic Places: identification, determination of eligibility, determination of effect, identification of prudent and feasible alternatives and consultation and agreement on mitigation measures with the New York State Office of Parks Recreation and Historic Preservation (NYSOPRHP).

According to the NYSOPRHP publicly available Geographic Information System (GIS) data the subject project is located within a potentially archaeologically sensitive area. In addition, residences within the project corridor have been listed as part of the Forest Home Historic District on the National Register of Historic Places.

Tompkins County has coordinated with the NYSOPRHP regarding the impacts of the proposed improvements to the historic structure and effect on the surrounding historic district. The NYSOPRHP response letter dated April 2, 2009 indicates that the proposed project will have "No Adverse Effect" upon the Forest Home Historic District or other resources in or eligible for inclusion in the National Register of Historic Places. A copy of the agency response is included in Appendix E.

- (2) **Section 4(f):** Section 4(f) of the Department of Transportation Act applies to properties that are publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites of national, state, or local significance. The NYSOPRHP issued a letter of "No Adverse Effect"; therefore, Section 4(f) involvement will not be required with regard to historic sites. Section 4(f) as it pertains to parkland is discussed in IV.B.3.f.
- (3) **Section 110 of the National Historic Preservation Act:** As discussed above, coordination with the NYSOPRHP was initiated by Tompkins County. According to

the NYSOPRHP response letter dated April 2, 2009, the project will have “No Adverse Effect” upon the Forest Home Historic District or other resources in or eligible for inclusion in the National Register of Historic Places.

- (4) **Act for the Preservation of American Antiquities:** As previously stated, the NYSOPRHP has issued a determination of “No Adverse Effect.” Accordingly, impacts upon National Historic Landmarks, historic and prehistoric structures, objects of historic and scientific interest, and/or National Monuments will not result from the proposed project.
- (5) **Archaeological Resources Protection Act:** As stated above, impacts upon archeological resources in or eligible for the National Register of Historic Places will not result from the proposed project.
- (6) **American Indian Religious Freedom Act:** The project will not affect places of religious importance to American Indians, Eskimos, Aleuts, or Native Hawaiians; therefore, no further coordination with regard to this Act is required.
- (7) **NYS Historic Preservation Act:** Since this project is being reviewed under Section 106, review under this Act (Section 14.09) is not required.
- (8) **Historic Bridges:** The subject bridge is referenced in the National Register of Historic Places as a structure located within the Forest Home Historic District; however, according to the NYSOPRHP response letter, adverse impacts to the historic bridge will not occur as a result of the proposed bridge rehabilitation project.

#### IV.B.3.e. Visual Resources

The project site is located in historic Forest Home, a hamlet of the Town of Ithaca. Land use within the project corridor mainly consists of residential, educational/recreational, impervious surface, and manicured/landscaped areas. The proposed limit of work will generally be confined to the existing bridge and approach roadway. Project-related impacts will primarily affect roadside and manicured lawns; therefore, views from the bridge and adjacent locations will not be significantly changed. All disturbed areas will be re-graded, reseeded, and restored following construction. Furthermore, since the project will involve the rehabilitation of an existing bridge it is expected that the visual character of the area, or viewshed, will not be adversely impacted. Due to the nature of the project, a viewshed analysis in accordance with the NYSDOT Visual Assessment Policy will not be required.

The project will not impact any registered National Landmarks. In addition, no National Natural Landmarks will be impacted by the proposed project.

#### IV.B.3.f. Parks and Recreational Facilities

- (1) **Section 4(f):** Section 4(f) of the Department of Transportation Act applies to properties that are publicly owned parks, recreation areas, wildlife and waterfowl refuges, and historic sites of national, state, or local significance. As previously stated, educational/recreational property (Mundy Wildflower Garden, F. R. Newman Arboretum) privately owned by Cornell University (Cornell Plantations) is located on the north and south side of Caldwell Road. The project will not result in impacts to

areas that are currently used as a public park, recreation area, wildlife or waterfowl refuge, or significant historic site; therefore, Section 4(f) evaluations are not required.

- (2) **Section 6(f):** The rehabilitation project will not require acquisition of nor does it impact any recreational parks federally funded by the United States Department of the Interior; therefore, Section 6(f) evaluations are not required.
- (3) **Adirondack Park:** The project does not involve land within the boundaries of the Adirondack Park.
- (4) **Section 1010:** The project will not affect any property that was improved or developed using Section 1010 Park and Recreation Recovery funds; therefore, no further review is required.
- (5) **Heritage Areas:** There are nineteen New York State designated Heritage Areas. The subject project will not impact a Heritage Area; therefore, no further review under this section is required.
- (6) **Unique Natural Areas (Tompkins County):** 30 Unique Natural Areas (UNAs) have been designated by the Tompkins County Environmental Management Council (TCEMC) in the Town of Ithaca. As defined by the TCEMC, a UNA is a part of the landscape that has outstanding environmental qualities and is deserving of special attention for preservation and protection. The subject project is located within UNA #131 – Fall Creek Valley. Adverse impacts to the Fall Creek Valley UNA as a result of bridge rehabilitation activities are not anticipated. Rather, since the historic appearance of the bridge will be maintained and a new sidewalk will be constructed the project is expected to positively affect the Fall Creek Valley UNA.
- (7) **New York State Scenic Byways Program:** State Scenic Byways are transportation corridors that are of particular statewide interest and are representative of a region's scenic, recreational, cultural, natural, historic, or archaeological significance. Prior to the creation of the New York State Scenic Byways Program, as administered by the NYSDOT, Forest Home Drive had been designated by the NYSDEC as a Scenic Road. Upon the creation of the program in 1992, all previously designated Scenic Roads automatically became Scenic Byways; therefore, Forest Home Drive is considered a New York State Scenic Byway and falls under the New York State Scenic Byways Program. Proposed project activities will adhere to the Corridor Management Plan (CMP) of the Forest Home Drive Scenic Byway to the greatest extent practicable.

#### IV.B.3.g. Farmland Assessment

The project is not within a New York State Agricultural District. The project will have no effect on any active farmlands.

- (1) **Farmland (Federal):** The soil mapped west of the bridge is Genesee silt loam (Gn); the soil mapped east of the bridge is Wayland and Sloan silt loams (Ws) and Chenango gravelly loam (Cdc). Genesee silt loam is listed as prime farmland in Tompkins County. Chenango gravelly loam is listed as farmland of statewide importance. Upon review of design plans, it appears that a limited impact will occur to a strip of prime farmland located west of the existing bridge as a result of

proposed sidewalk construction and approach work. Based on review of the project area, land use, proposed impacts, and the assessment criteria presented in Part 658.5 of the Farmland Protection Policy Act, it has been determined that although the project will impact soils mapped as prime farmland, the site assessment scoring criteria for the project would not exceed sixty points; therefore, the Farmland Impact Conversion Rating Form AD 1006 will not have to be completed and submitted to the Natural Resource Conservation Service (NRCS). No further work is expected to be required with regard to the Federal Farmland Protection Policy Act; therefore coordination with the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) will not be required.

- (2) **Farmland (State):** Based on a general site reconnaissance and review of the Tompkins County Soil Survey and the Tompkins County mapped agricultural districts, as posted in GIS file format on the CUGIR website, it has been determined that the subject project is not located within a designated agricultural district. No further coordination is required with regard to the New York State Agriculture and Markets Law.

#### IV.B.3.h. Air, Noise and Energy

- (1) **Clean Air Act (CAA):** An air quality analysis is required for projects that increase traffic volumes, reduce source-receptor distances or change existing conditions to such a degree as to jeopardize attainment of the National Ambient Air Quality Standards (NAAQS). Since the proposed project will not result in any of the aforementioned impacts, an air quality analysis is not anticipated to be required.
- (2) **Indirect Source Permits:** The project does not involve modification of a federal or state owned parking facility, construction of a new road or modification of an existing road which will increase average daily traffic volume by 10,000 vehicles within 10 years. Therefore, an indirect air source permit will not be required.
- (3) **Airports - Air and Water Quality:** There are no airports within the project limits.
- (4) **Noise:** According to 23 CFR 772, a noise analysis is required for the construction of a highway on a new route or the physical alteration of an existing highway which significantly changes either the horizontal or the vertical alignment or increases the number of through-traffic lanes. The proposed project involves the rehabilitation of an existing bridge; therefore, no significant noise impacts are anticipated and a noise study is not required.
- (5) **Energy:** Due to the nature of the project changes in travel patterns and vehicle-operating speeds will not occur at the project site or adjacent travel corridor. As such, energy consumption will not change as a result of the project; therefore, an energy evaluation will not be required during design activities.

#### IV.B.3.i. Contaminated Materials Assessment

- (1) **Asbestos:** SCE conducted an asbestos assessment of the bridge structure. As part of the project, impacted bridge materials that are asbestos-containing are to be handled in accordance with all applicable federal, state and local laws. A material is defined as an asbestos containing material (ACM) under the Occupational Safety

and Health Administration (OSHA) regulation 29 CFR 1926.1101, if it contains greater than one percent (>1%) asbestos by weight. Suspect ACM are identified by reviewing available record plans and by conducting an on-site visual assessment. Suspect ACMs on bridges may include but are not limited to abutment sheet packing, tar coatings, caulking, or suspended utility piping/conduit insulations. In accordance with the NYSDOT EI 02-016 dated 6/19/02, all pre-1981 coatings applied to structural steel members should be assumed ACM unless confirmed otherwise by laboratory analyses.

The subject bridge consists of a steel overhead truss structure with two concrete and stone abutments and an open grate deck spanning Fall Creek. A municipal sewer line is located along the downstream side of the bridge, while a municipal water line is located along the upstream side of the bridge.

As-built record plans dated 1974 and 1998 were reviewed as part of the preliminary asbestos assessment. No suspect ACMs were noted on the record plans. Original construction plans for the bridge structure were not available.

The asbestos assessment and sampling was performed on April 22, 2008. The materials sampled included: a black pipe wrap on the municipal sewer line, green paint on the structural steel components, and a bituminous joint material on the municipal water line. All of these materials were identified as suspect ACM during the preliminary asbestos assessment conducted on January 24, 2008.

All asbestos sampling services were performed by New York State Department of Labor (NYSDOL)-certified/USEPA-accredited Asbestos Inspectors. Samples of suspect ACM that were obtained by SCE were sent to Fibers I.D., Inc. of Albany, New York and Eastern Analytical Services, of Elmsford, New York for analysis.

ACM was identified at the bridge structure located at Forest Home Drive over Fall Creek, (BIN 3047450) in the Town of Ithaca, Tompkins County, New York. A total of nine samples were collected of three homogeneous materials identified for the bridge structure.

Samples were analyzed in accordance with NYS ELAP 198.4 Methodology. GR/PLM/TEM analyses were performed on samples utilizing NYSDOT protocol. Analytical results determined that the bituminous joint material located on the municipal water line is ACM. Analytical results determined that the green paint covering the steel members of the bridge, and the black pipe wrap covering the municipal sewer line are non-ACM.

The bituminous joint material and any additional suspect ACM encountered during construction activities should be handled as an ACM unless laboratory analysis determines the additional material is non-ACM. Removal, transport, and disposal of ACM shall be performed in accordance with federal, state, and local regulations including, but not limited to, those of the USEPA, OSHA, NYSDEC, and NYSDOL. Applicable regulations include National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated by USEPA and NYSDOL Industrial Code Rule 56 (ICR 56). The Asbestos/Lead Assessment letter report has been included in Appendix B.

- (2) **Hazardous Waste:** A preliminary Hazardous Waste/Contaminated Materials (HW/CM) Screening was completed for the project area. The primary objective of this screening was to render an opinion as to whether surficial or historical evidence indicates the presence of recognized environmental conditions that could result in the presence of hazardous materials in the environment. The screening was completed in general conformance with current NYSDOT HW/CM screening procedures.

A site visit of the project area was conducted on January 24, 2008. The purpose of the site visit was to gather information regarding present site conditions, and to identify observable physical evidence of contamination within the immediate vicinity of the subject project. The project area was visually assessed for recognized environmental conditions. The site observations revealed that land use in the vicinity of the subject bridge is predominately residential. The F.R. Newman Arboretum is located along the north side of Caldwell Road. The Mundy Wildflower Garden, Horticultural Center, and Gardening and Natural Areas staff offices are located southeast of the bridge structure. Beyond this is the Cornell University Water Filtration Plant. No properties were identified as posing an environmental threat based on the site visit.

SCE retained the services of Environmental Data Resources, Inc. (EDR) to generate a Radius Map and Geocheck Report for the project area. This report provides a listing of state and federally listed sites located within the American Society for Testing and Materials (ASTM) standard search distance from the subject project. Several sites were determined to be located near the study area including several unmapped (orphan) sites. None of these sites are anticipated to pose an environmental threat to the study area based on their distance from the study area, nature of the incident, the incident's status as meeting standards, or no documentation of other issues reported in connection with the site.

- (3) **Lead:** Painted steel components are present throughout the bridge structure. The OSHA does not set a threshold concentration standard for leaded paint but sets standards of airborne lead dust exposure for workers during renovation and demolition of painted components. Paint is considered lead-based by the USEPA if analytical results indicate that the concentration of lead exceeds 0.5% by weight (5000 ppm).

Lead based paint (LBP) was not identified at the bridge structure located at Forest Home Drive over Fall Creek, (BIN 3047450) in the Town of Ithaca, Tompkins County, New York. A total of two samples were collected of the green paint covering the steel members of the bridge structure.

Samples were analyzed in accordance with Standard Methods (SM) Methodology SM 18-20 3120B. Analytical results for both samples indicate that the paint is not lead-based (1 mg/kg = 1 ppm).

Since laboratory analysis did not indicate the presence of LBP, additional handling procedures with respect to the USEPA lead dust standards are not anticipated for the impacted steel components. The Asbestos/Lead Assessment letter report has been included in Appendix B.

**IV.B.3.j. Construction Impacts**

No long-term impacts to the environment are anticipated as a result of the proposed construction operations. Residents located near the project may experience a temporary increase in noise and dust during the construction period. All disturbed areas will be re-graded, reseeded and restored to their original condition once construction activities have ceased. As previously stated, a signed off-site detour will be utilized to maintain vehicular and pedestrian traffic. As a result, it is anticipated that the traveling public will experience a minor short-term change in travel patterns.

**IV.B.3.k. Anticipated Permits, Approvals and Coordination**

Several specific and/or general permits and approvals may be required for the project. Potential permits and approvals are summarized below:

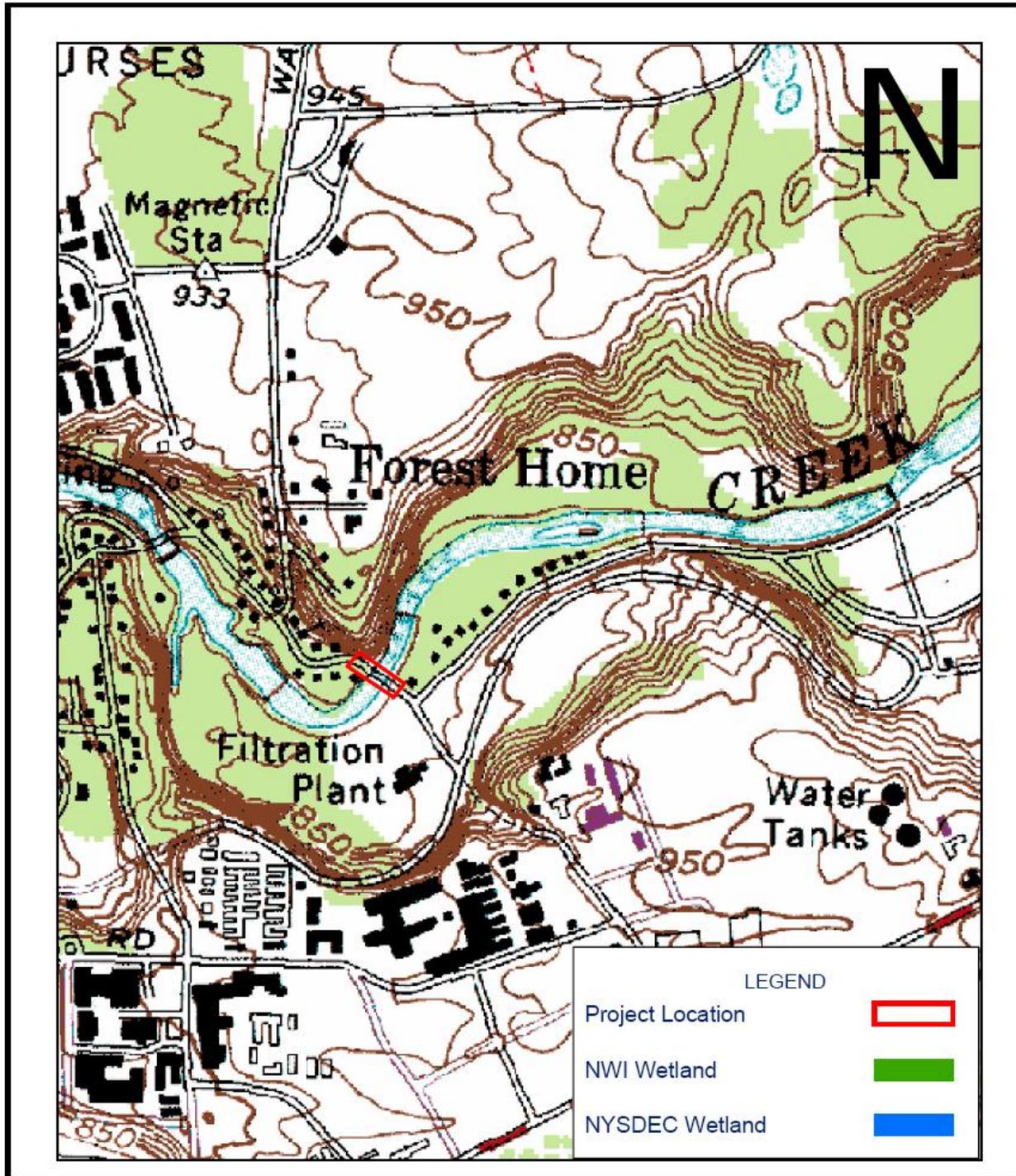
- USACE/NYSDEC §404 Nationwide Permits #3 & #33
- NYSDEC Article 15 Protection of Waters Permit
- NYSDEC Water Quality Certificate
- NYSOPRHP Letter of “No Effect”
- Town Floodplain Development Permit

**IV.B.4 Indirect/Secondary and Cumulative Impacts****IV.B.4.a. Indirect/Secondary Impacts**

The proposed project involves the rehabilitation of a bridge that carries Forest Home Drive over Fall Creek and associated approach work. The main objective of the project is to eliminate the existing bridge’s structural deficiencies while preserving the historic appearance of the bridge. The proposed project will also improve pedestrian safety within the corridor and the durability of the structure, thereby reducing future maintenance needs. No indirect/secondary impacts are anticipated with regard to vehicular traffic.

**IV.B.4.b. Cumulative Impacts**

Since the project is not being progressed to address mobility or capacity needs, it is not expected to be growth inducing. Therefore, cumulative impacts are not anticipated.



PROJECT LOCATION MAP



BRIDGE REHABILITATION  
FOREST HOME DRIVE  
TOWN OF ITHACA  
TOMPKINS COUNTY, NY  
PIN 3950.41

FIGURE NO.1

NOT TO SCALE

## CHAPTER V - COMMENTS AND COORDINATION

### V.A. Project Working Group and Public Meetings

In order to facilitate input from the various entities with an interest in the project, a working group was formed including representatives from the following organizations:

- Tompkins County Highway Division
- Town of Ithaca
- Forest Home Association
- Historic Ithaca
- Cornell University Plantations
- Cornell University Transportation

Working group meetings were held periodically to gather input on the project needs and the proposed design alternatives. In addition to the working group meetings, two public information meetings were held to gather input from the general public. The following is a summary of the meetings that were held. Summaries of the input obtained from these meetings are provided at the end of this chapter.

<u>Meeting</u>	<u>Date/Time</u>	<u>Location</u>
Working Group Meeting 1	February 20, 2008; 1:00 p.m.	Cornell Plantations
Working Group Meeting 2	April 30, 2008; 1:00 p.m.	Forest Home Chapel
Public Meeting 1	May 7, 2008; 7:00 p.m.	Forest Home Chapel
Working Group Meeting 3	November 5, 2008; 12:00 p.m.	Forest Home Chapel
Working Group Meeting 4	December 19, 2008; 1:00 p.m.	Forest Home Chapel
Public Meeting 2	February 4, 2009; 7:00 p.m.	Forest Home Chapel
Working Group Meeting 5	February 12, 2009; 2:15 p.m.	Tompkins Co. Hwy. Division
Working Group Meeting 6	March 3, 2009; 1:00 p.m.	Forest Home Chapel
Working Group Meeting 7	September 15, 2009; 1:00 p.m.	Forest Home Chapel

# **WORKING GROUP MEETING 1**

**FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450  
UPSTREAM BRIDGE REHABILITATION**

**Working Group Meeting  
February 20, 2008; 1:00 P.M.  
Cornell Plantations**

AGENDA / *Summary*

1. Introductions of Involved Parties & Contacts
  - a) County: John Lampman - 274-0307; jlampman@tompkins-co.org
  - b) Town: Fred Noteboom - 273-1656; FNoteboom@town.ithaca.ny.us
  - c) Forest Home: Bruce Brittain - 257-0639; bruceb2@mindspring.com
  - d) CU Plantations: Hal Martin - hsm6@cornell.edu
  - e) Erdman-Anthony, NYSDOT, Historic Ithaca, NYSHPO
  
2. Project Overview
  - a) Concept Schedule & Work Scope
    - Use existing kiosk for bridge? Existing plaques in contrasting colors.
    - Reconstruction is best alternative
    - Walk surface on new bridge – Concrete
    - Lighting?
  - b) existing condition and needs
    - Drainage concerns; survey data share with Town
    - Accidents reduced when Caldwell STOP added 4-5 yrs ago
    - Preserve plantings in Arboretum, but plantings at bridge are not significant.
    - Newell post on Adams Street in Ithaca matches d/s bridge rail posts. Available?
    - Wildflower Garden entry improvement with crosswalk upgrade.
  - c) other Town, Neighborhood, or Plantations plans
    - No crosswalks at Plantation Road.
    - Sidewalk on downstream side of Caldwell Road
    - Water line from filter plant
  - d) FHIA Traffic Calming Plan
    - 1.5-foot wide shoulders (Imprinted concrete?); 21 feet curb-to-curb width.
  
3. Questions
  - Could road/bridge be raised?

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Friday, April 04, 2008 9:50 AM  
**To:** John Lampman  
**Subject:** Upstream FH Bridge

Hi John--

I enjoyed February's meeting relative to the rehabilitation of the upstream Forest Home bridge. That seems like a good group of people (even if Fred didn't quite get the message that this was supposed to be a small working group, with one representative from each entity). This e-mail serves as a brief follow-up to that meeting.

After the meeting, I took a more thorough look at the material that you handed out. It looked good; you did a great job of describing the project, and the photos with captions nicely convey the aesthetic value of the bridge and its setting, as well as the issues of physical deterioration and pedestrian access.

I stopped by the bridge and took another look at the approaches, and there may be some difficulties in raising the bridge more than just a few inches. In particular, the driveway for 236 Forest Home Drive (Shipe) could become quite steep, and any added height of the retaining wall could tower over the house and yard. Similarly, the house at 237 Forest Home Drive (Baum/Hoffmann/Chambers) could become overshadowed by a high new retaining wall. In addition, the front steps and driveway for 237, which are already fairly steep, could become exceedingly so. Finally, drainage patterns in the area would be affected, perhaps adversely. In any case, any thought of raising the bridge more than just a few inches should be considered carefully.

At the meeting, the Town stated that they would prefer a wider walkway on the bridge, since they thought it would be easier for them to maintain. However, the sidewalks throughout the Forest Home community, which the Town is expected to construct and maintain (according to the Town Transportation Plan), will be three to four feet wide, so there would be no savings in labor for the Town associated with a wider bridge walkway. The Town also indicated a preference for a material other than wood, also for maintenance reasons. As I recall, when the issues of walkway width and material came up for the rehabilitation of the downstream bridge, SHPO was pretty clear that the historic 4 ft width and wooden surface were important considerations, and should not be dismissed simply due to ease of maintenance. I imagine that they will take the same position this time as well. It would therefore probably make sense to plan for a 4 ft wide wooden walkway on the bridge.

I believe you indicated that the reconstruction of the Warren Road hill would likely not be completed in 2009, but would be put off another year or two. This might make sense from the County's perspective, in that the temporary patch paving seems to be holding up well. However, from Forest Home's perspective, the lack of pedestrian facilities along the hill represents a major drawback in community safety. Fred had indicated that the Town was willing to construct pedestrian facilities along that stretch of road, but did

not want to do so until the final curb line had been established by the County. In addition, the Town is planning to reconstruct the stretch of Forest Home Drive between the upstream bridge and Warren Road as part of the bridge project in 2009. It might make sense to coordinate all of these projects, and rebuild the Warren Road/Forest Home Drive intersection at that time. Finally, the negative super-elevation at the bottom of the hill continues to contribute to motor vehicle accidents, as down-bound cars slide into the up-bound lane. And at least two cars have hit the raised manhole at the bottom of the hill this winter. So it would also improve vehicular safety to address the Warren Road hill sooner rather than later. Is there any chance of getting that project back on track for 2009?

You had mentioned, after the meeting, that early-to-mid March might be an appropriate time to get overlays from the FH TC Plan of the bridge and its approaches to you, so that you could forward them to the design engineer. As you may have noticed, I have not done this yet, which I feel badly about. I hope this hasn't been too much of a problem. Where are you (and the design engineer) in the process? If I get them to you this month, is that good enough? What is the new deadline?

All for now. Thank you for your continuing efforts on behalf of our little corner of the County. I hope your spring is going well.

--Bruce

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Sunday, April 13, 2008 9:55 PM  
**To:** John Lampman  
**Subject:** Re: Upstream FH Bridge

Hi John--

Sorry for the delay in getting back to you. I was putting out fires last week, but got caught up on things this weekend.

#### PUBLIC INFORMATION MEETING

I have forwarded your suggestions for a date for the Public Meeting to the FHIA Executive Committee, and will let you know their response. There has been some talk of holding a Forest Home meeting before the County meeting, in order to iron out any remaining issues relative to the FH TC Plan, and to ensure that we in FH are all on one page by the time we start discussing the USB project. This might argue for holding the County's meeting later (May 7 or 8), rather than sooner (April 30 or May 1), in order to allow FH time to schedule and hold its own meeting, and not have it bump up against the County's meeting date. However, I think May 8th might not be convenient for us, since there is a Town Planning Committee meeting late that afternoon (4:45 - 6:00 or 6:30), and it looks like the FH Traffic Calming Plan will be on the agenda. Some FHers (as well as some Planning Committee members and Town staff) may want to attend both meetings. So if you do schedule your meeting for the 8th, some of us might have to run from one meeting to the other. So right now the 7th looks promising, but I am still waiting to hear back from the FHIA Executive Committee. In any case, I checked the Chapel schedule, and it seems to be free pretty much all of this month as well as most of May.

#### WORKING GROUP MEETING

Either of the dates that you suggested would work for me. If you would like to hold the meeting in the Chapel, I can probably arrange that.

#### OVERLAYS

Doug and I are working on the overlays, and will touch base with you again mid-week.

#### HEIGHT OF FLOOD WATERS UNDER BRIDGE

I think your best bets might be the Fletchers and the Shipes, who have been our faithful guardians of the bridge for as long as I can remember. The Fletchers spent some time out of the country, however, and may not have been here in October '81. I have e-mailed Alan to see if he can help us out; he sent a quick response indicating that he is out of town for a few days, but will reply when he gets back.

Unfortunately, Frank Shipe doesn't seem to check his e-mail very frequently. I don't have a current phone number for him, but believe that he is now living at Alterra. Do you want to give him a call? I have also e-mailed several former Forest Homers who might remember, and have asked the FH leadership to send out a notice to the community, to see if anyone else might have some information or a photograph. I'll let you know what I hear back.

As my Mom and I (somewhat vaguely) recall, the USB was closed to traffic during the peak of the 1981 flood, since the water was getting up close to the floor. But I don't think it actually got up to deck height. So your photograph might be of peak, or near peak conditions. Incidentally, I'd love to see your photo(s) of waves lapping at the underside of the bridge sometime, and, if possible receive a high quality print to include in the FH files.

## WARREN ROAD HILL

The fact that you didn't say No gives me hope. I can touch base with the Powers That Be here in FH, but last I knew, getting the walkway on the hill constructed was a priority for the community. We can discuss this more at the Working Group and Public Information meetings.

Thanks for all your work.

--Bruce

On Apr 8, 2008, at 9:06 AM, John Lampman wrote:

> Hi, Bruce.  
>  
> I have discussed your concerns about raising Forest Home Drive with  
> Fred Noteboom and Erdman Anthony. EA is sharing its survey data with  
> the Town so it can consider if raising the approaches really works.  
> EA is also studying the hydraulic implications of a girder bridge, the  
> original impetus for raising the approaches, to see how  
> much the road would have to be raised for that alternative.  
> Raising a rehabbed bridge is also an option if some elevation increase  
> is desirable.  
>  
> It sounds like we need to discuss the walkway width with the Town in a  
> larger context than just the bridge. You may be right about SHPO and  
> the wood surface. I would discuss the issue with them, though, given  
> the maintenance benefits. Since the sidewalk was not original maybe  
> we can make a case for a different material.  
>  
> Maintaining the temporary hill pavement another year does make sense  
> from the County's budgetary perspective. Both the Town and the County  
> need to decide on a schedule for construction. I continue to think  
> that since the upper bridge will be closed next year it would be too  
> much for the residents and road users to close a second major access  
> in and out of the neighborhood. By this message I will ask Fernando  
> de Aragon at the ITCTC if they can do a traffic model of that  
> situation. With that information, we could ask the question at our  
> upcoming Public Information Meeting and then revisit the schedule.  
>  
> I don't think that not having the overlays has slowed EA down. EA  
> will be putting together graphics for the public meeting over the next  
> couple of weeks, though. So the information might be helpful to show  
> how the bridge alternatives mesh with the Traffic Calming Plan.  
>  
> The new deadline for getting something to EA would probably be the  
> middle of next week. That is because we are thinking about having the  
> Public Meeting on April 29. We could put it off into early May if you  
> think that is too soon or if the Forest Home Chapel is unavailable.  
> Could you please check availability and let me know about any  
> conflicts that evening might create? I'd also like to schedule  
> another working group meeting before the public meeting to get feed  
> back on what we have to show. That would probably need to be on the  
> 24th or 25th. (Everyone, please let me know if either of those days  
> work for you.)  
>  
> Thank you for your help.  
>

> John  
>  
>>> Bruce Brittain <bruceb2@mindspring.com> 4/4/2008 9:50 AM >>>  
> Hi John--  
>  
> I enjoyed February's meeting relative to the rehabilitation of the  
> upstream Forest Home bridge. That seems like a good group of people  
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> the bridge more than just a few inches should be considered carefully.  
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> bridge project in 2009. It might make sense to coordinate all of

> these projects, and rebuild the Warren Road/Forest Home Drive  
> intersection at that time. Finally, the negative super- elevation at  
> the bottom of the hill continues to contribute to motor vehicle  
> accidents, as down-bound cars slide into the up-bound lane.  
> And at least two cars have hit the raised manhole at the bottom of the  
> hill this winter. So it would also improve vehicular safety to  
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> problem. Where are you (and the design engineer) in the process? If  
> I get them to you this month, is that good enough? What is the new  
> deadline?  
>  
> All for now. Thank you for your continuing efforts on behalf of our  
> little corner of the County. I hope your spring is going well.  
>  
> --Bruce  
>

## **WORKING GROUP MEETING 2**

**FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450  
UPSTREAM BRIDGE REHABILITATION**

**Working Group Meeting  
April 30, 2008; 1:00 P.M.  
Forest Home Chapel**

**AGENDA**

1. Alternatives Overview and Evaluation
  - a) Multi-Girder Option
  - b) Rehab Option
2. Town's Forest Home Drive Construction Plans
3. FHIA Traffic Calming Plan
4. Overlay of Traffic Calming Plan
5. Public Meeting (May 7 @ 7PM)
6. Questions

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Wednesday, July 02, 2008 12:41 PM  
**To:** John Lampman; Fred Noteboom; hsm6@cornell.edu  
**Subject:** Designs for Approaches to FH Upstream Bridge

**Attachments:** Attach1.Text.pdf; Attach2.Figures.pdf

Hi All--

Attached please find (as two pdf files) possible designs for the approaches to the Forest Home upstream bridge. These designs take into account the Forest Home Traffic Calming Plan, and may prove useful as we develop final designs for this bridge rehabilitation project.

Please let me know if you can't open the files, and I can send you a hard copy via snail mail when I get back in town next week.

John, I don't have an e-mail address for Mark Laistner or Jessica Evans. Could you please forward this to them? Or let me know their addresses and I can send this to them myself.

Thank you

--Bruce

**DATE:** July 2, 2008  
**TO:** John Lampman  
Mark Laistner  
Fred Noteboom  
Hal Martin  
Jessica Evans  
**FROM:** Bruce Brittain  
**RE:** Designs for Upstream Bridge Approaches

Attached please find five drawings of possible designs for the Forest Home upstream bridge approaches. Figure 1 details the eastern approach to the bridge as specified in the Forest Home Traffic Calming Plan. (This is the design that was displayed on the wall in the Chapel basement during the May 7 Public Meeting.) Figures 2 through 5 detail four different designs for the western approach. Figure 2 is the design specified in the Forest Home Traffic Calming Plan. Figures 3 through 5 may offer some advantages over what is recommended in the Plan, such as wider pedestrian facilities, and a shorter functional length of the bridge (especially Figure 5).

Although other designs are possible, all of these approach designs have been developed to have minimal impact on the properties that adjoin the road, while providing adequate pedestrian and vehicular facilities. In any case, it is quite clear that major intrusions onto private property (such as moving Shipe's stone retaining wall six feet into their lawn) are not necessary in order to successfully complete this project.

I hope you find these designs to be useful. I would be happy to discuss these, along with any other suggestions, at our next Working Group meeting.

## EASTERLY APPROACH

**Figure 1** Shows modifications as specified in the Forest Home Traffic Calming Plan. Features specific to the approach include:

- Pedestrian hand rail extended to vicinity of utility pole.
- Split rail fence repaired and relocated.
- Four foot wide walkway on north side of road.
- Granite curb separates walkway from road.
- Granite block shoulder 18 in wide on both sides of road.
- Kink in shoulder at Yield line (white painted triangles) defines head of stacking area for bridge.
- Guiderail on north side of road is extended to kink in shoulder.
- Guiderail on south side of road is terminated shortly east of bridge, and unnecessary existing guiderail is removed. A short section of curved guiderail protects sewer tanks.

## WESTERLY APPROACH

**Figure 2** As specified in the Forest Home Traffic Calming Plan

- No impact on stone retaining wall on north side of road, and no impact on adjoining flower garden (Shipe, 236).
- Pedestrian hand rail extended to end of stone retaining wall.
- Four foot wide walkway on north side of road coming off bridge. Walkway tapers to 3 ft wide at narrowest point (3½ ft if you consider the top of the curb to be a walkable surface). Walkway becomes a full 4 ft wide west of the Shipe's driveway (236).
- Granite curb on north side of road runs from bridge to Shipe's driveway (236).
- Guiderail is located directly above curb, and extends out (westerly) from bridge approximately 25 ft.
- Granite block shoulder on both sides of road. Shoulder is 18 in wide on north side of road, 12 in wide on south side, becoming 18 in wide at the kink.
- Kink in shoulder at Yield line (white painted triangles) defines head of stacking area for bridge.
- Shoulder on south side of road is located entirely on existing pavement, so that there is no impact on embankment on south side of road (Chambers, 237).

**Figure 3** Minor intrusion on property to north (Shipe, 236)

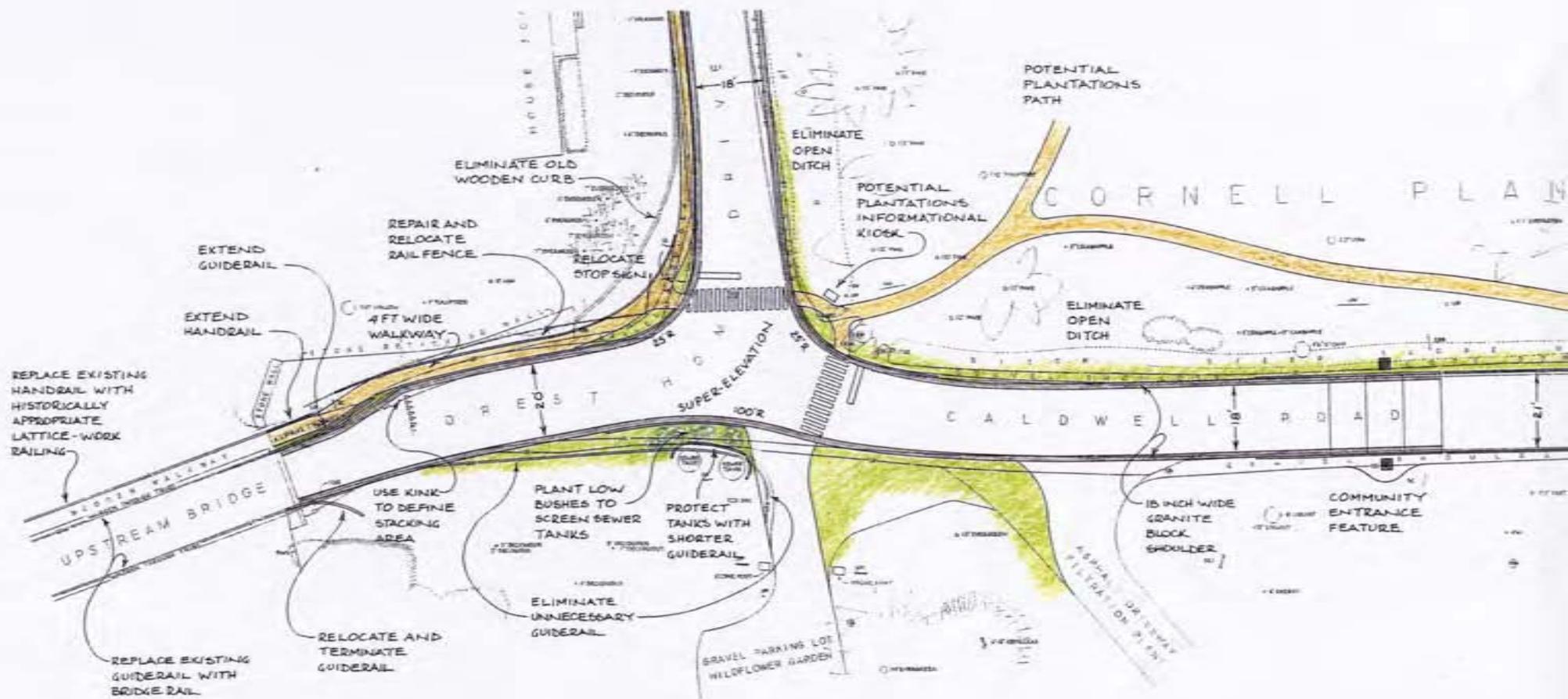
- Realign last 15 - 20 ft of stone retaining wall on north side of road (Shipe, 236).
- Extend pedestrian hand rail to end of realigned stone wall.
- Four foot wide walkway on north side of road coming off bridge tapers to 3½ ft wide at the narrowest point (4 ft if you consider the top of the curb to be a walkable surface). Walkway becomes a full 4 ft wide west of the Shipe's driveway (236).
- Granite curb on north side of road runs from bridge to Shipe's driveway (236).
- Guiderail is located directly above curb, and extends out (westerly) from bridge approximately 25 ft.
- Granite block shoulder is 18 in wide on both sides of road.
- Kink in shoulder at Yield line (white painted triangles) defines head of stacking area for bridge.
- Shoulder on south side of road is located entirely on existing pavement, so that there is no impact on embankment on south side of road (Chambers, 237).

**Figure 4** Minor intrusion on property to south (Chambers, 237)

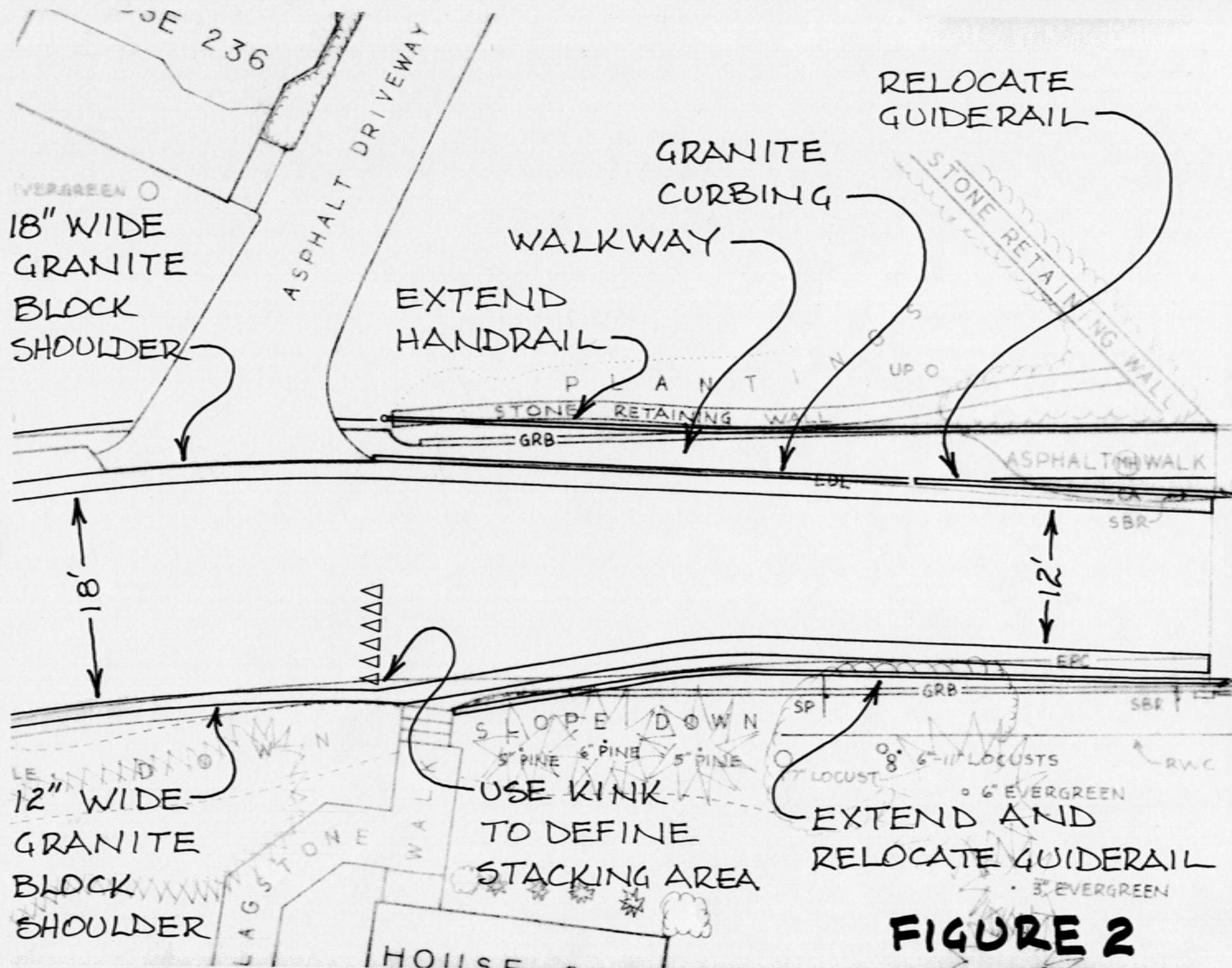
- No impact on stone retaining wall on north side of road, and no impact on adjoining flower garden (Shipe, 236).
- Pedestrian hand rail extended to end of stone retaining wall.
- Four foot wide walkway on north side of road coming off bridge. Walkway remains a full 4 ft wide (4½ ft if you consider the top of the curb to be a walkable surface). Walkway remains 4 ft wide west of the Shipe's driveway (236).
- Granite curb on north side of road runs from bridge to Shipe's driveway (236).
- Guiderail is located directly above curb, and can extend further out from the bridge without impacting the width of the walkway (60 ft shown in Figure 3).
- Granite block shoulder is 18 in wide on both sides of road.
- Kink in shoulder at Yield line (white painted triangles) defines head of stacking area for bridge.
- Shoulder on south side of road extends onto new fill. Modify slope on south side of road (Chambers, 237) with fill or minor retaining wall to support granite block shoulder, which extends 18 in beyond existing asphalt at top of slope.

**Figure 5** Minor intrusions on properties to both the north (Shipe, 236) and south (Chambers, 237)

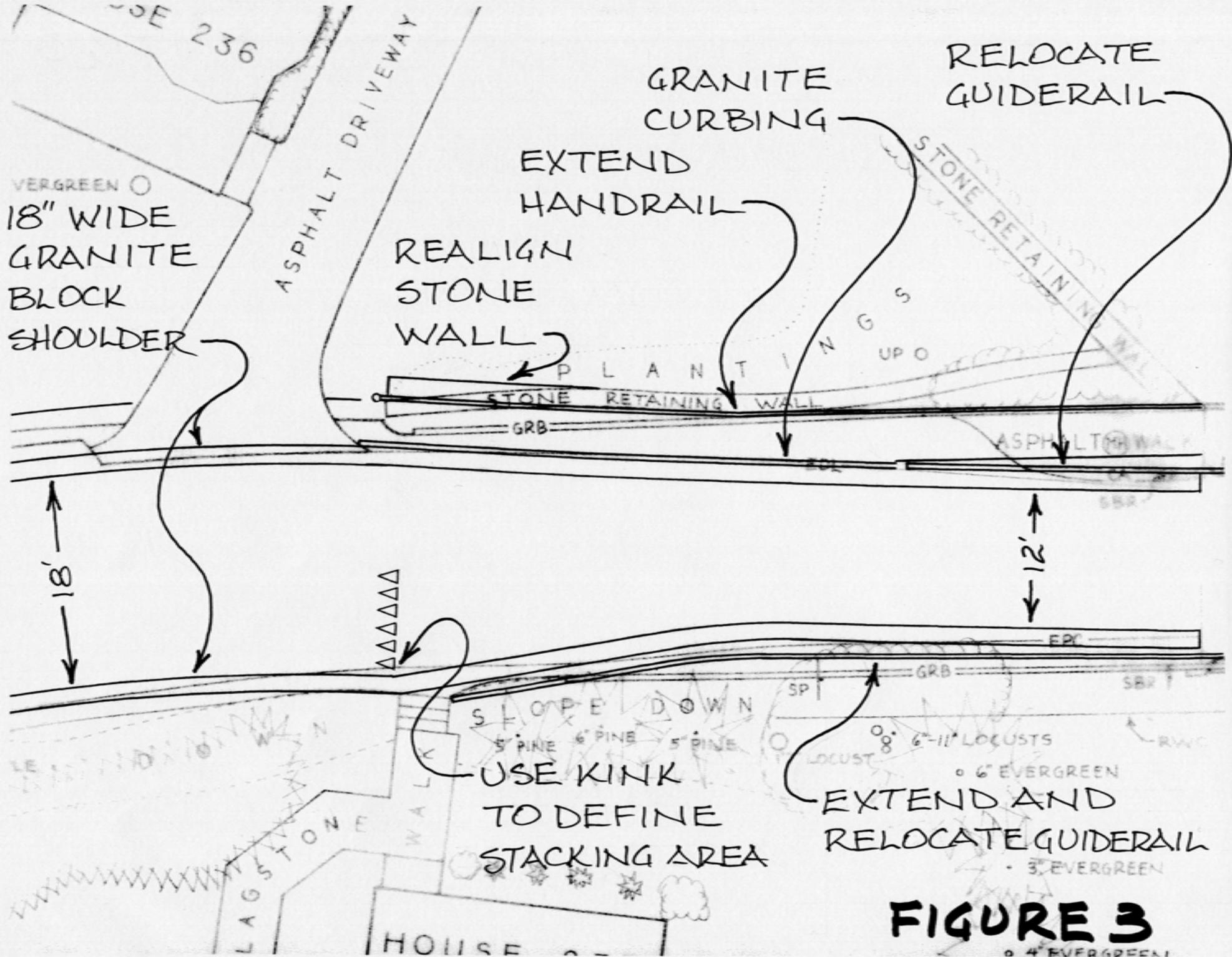
- Realign last 15 - 20 ft of stone retaining wall on north side of road (Shipe, 236).
- Extend pedestrian hand rail to end of realigned stone wall.
- Four foot wide walkway on north side of road coming off bridge tapers to 3½ ft wide at the narrowest point (4 ft if you consider the top of the curb to be a walkable surface). Walkway becomes a full 4 ft wide west of the Shipe's driveway (236).
- Granite curb on north side of road runs from bridge to Shipe's driveway (236).
- Guiderail is located directly above curb, and extends out (westerly) from bridge approximately 25 ft.
- Granite block shoulder is 18 in wide on both sides of road.
- Kink in shoulder at Yield line (white painted triangles) defines head of stacking area for bridge.
- Shoulder on south side of road extends onto new fill. Modify slope on south side of road (Chambers, 237) with fill or minor retaining wall to support granite block shoulder, which extends 18 in beyond existing asphalt at top of slope.



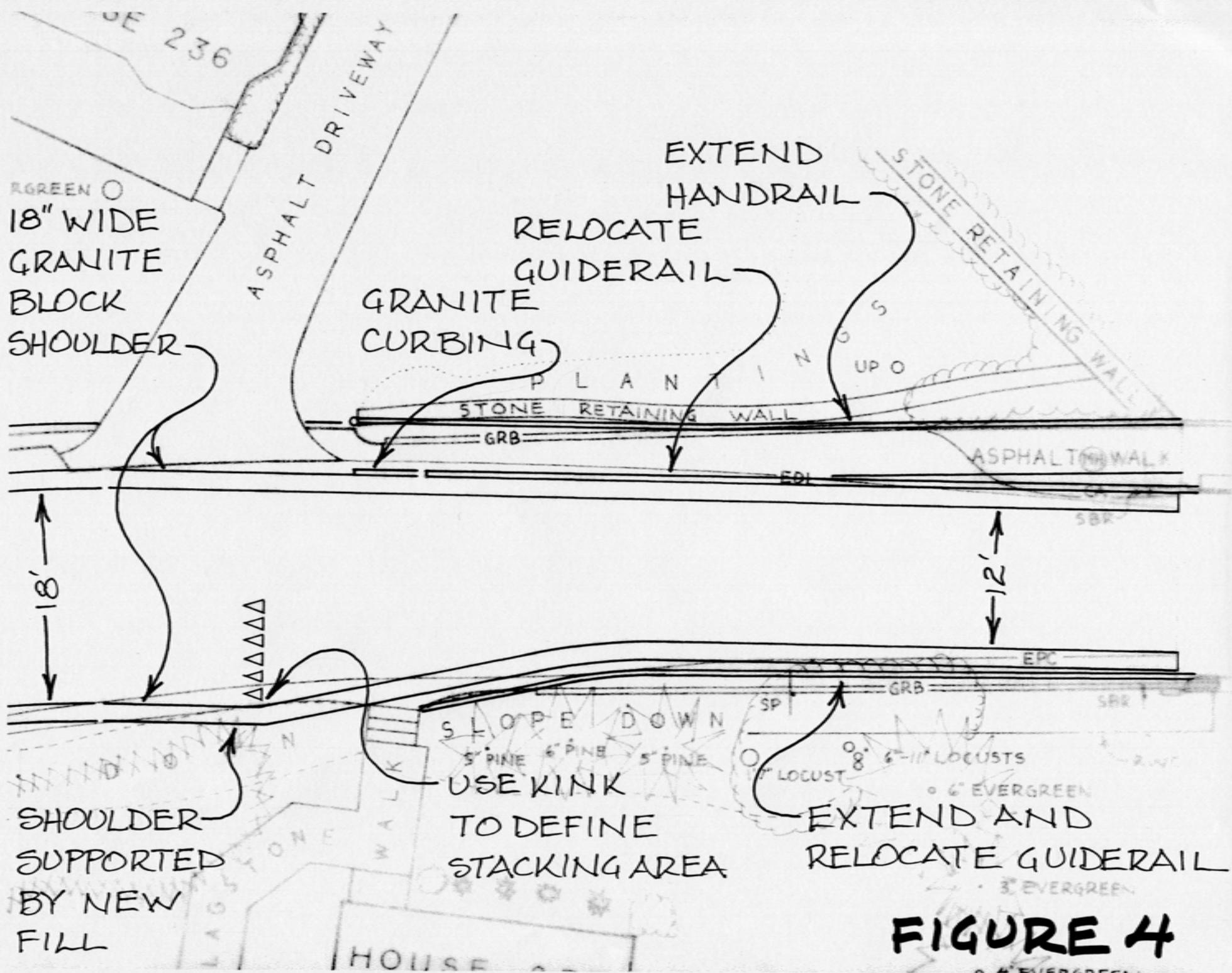
**FIGURE 1**

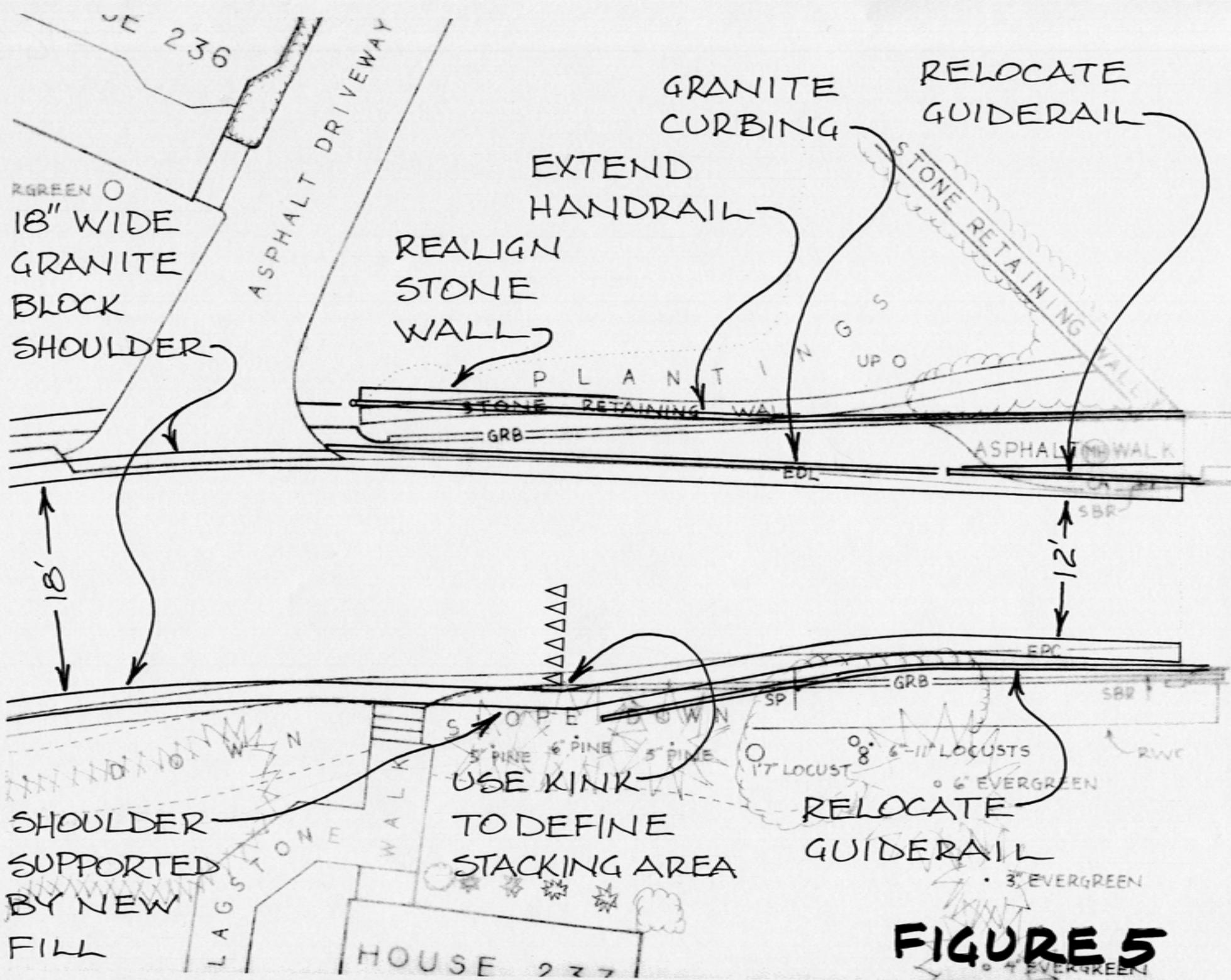


**FIGURE 2**



**FIGURE 3**





**FIGURE 5**

# **PUBLIC MEETING 1**

TOMPKINS COUNTY HIGHWAY DIVISION

170 Bostwick Road, Ithaca, NY 14850  
607-274-0300  
FAX 607-272-8489

*PUBLIC MEETING*

**FOREST HOME UPSTREAM BRIDGE  
REHABILITATION**

Wednesday, May 7, at 7:00 p.m.

Forest Home Chapel (basement)

222 Forest Home Drive

You are invited to a public meeting regarding rehabilitation of the high-truss bridge between Caldwell and Warren Roads on Forest Home Drive. The meeting will be held in the basement of the Forest Home Chapel, 222 Forest Home Drive, Wednesday, May 7, from 7:00 to 9:00 PM.

This work is a federally funded Transportation Enhancement Project sponsored by Tompkins County. Its primary objectives are to preserve the structure and its contribution to the historic setting and to improve pedestrian facilities on the bridge approaches. A working group composed of individuals from the County and Town of Ithaca Highway Departments, Cornell Plantations, and the Forest Home Improvement Association has discussed project priorities and design alternatives over the last few months. They are also considering project objectives in the light of the traffic calming pattern recently developed by the community.

At this meeting, County staff will present project ideas and receive feedback from the neighborhood to ensure that community concerns are considered before a preferred design is selected. Following the presentation, the public will be able to review conceptual plans one-on-one with project staff.

The design is still in the conceptual stage. The project schedule calls for design to be completed this fall with construction in 2009.

For more information, please contact John Lampman at Tompkins County Highway Division, 170 Bostwick Road, Ithaca, NY 14850, (607) 274-0307, or e-mail at ["jlampman@tompkins-co.org"](mailto:jlampman@tompkins-co.org).

**INFORMATION SHEET**  
**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**  
**Tompkins County**  
**May 7, 2008**

**PURPOSE OF THE MEETING**

The purpose of the meeting is to make the public aware of the Upstream Forest Home Drive Bridge Rehabilitation project, to inform them about design process, and to provide a forum for the community to participate in that process.

**MEETING AGENDA**

Welcome & Introductions.....	7:00 to 7:10
Project Overview & Question and Answer Period .....	7:10 to 7:30
Project Discussion Groups.....	7:30 to 8:30
Wrap Up / Informal Q&A.....	8:30 to 9:00

**PROJECT DESCRIPTION**

The Tompkins County Highway Division has been granted Federal aid to rehabilitate the truss bridge between Caldwell and Warren Roads on Forest Home Drive, the “upstream bridge”. As a historic enhancement, the project will seek to maintain the appearance of the bridge including the one-lane width. The project will also improve pedestrian and bicycle facilities on the bridge approaches, including completing the walkway from Warren Road to the Plantations at Caldwell Road. The work may also coordinate with utility and pavement improvements proposed by the Town of Ithaca between the bridge and Warren Road. The opportunity exists to also construct traffic calming or other measures that will enhance safety within the project limits.

**PROJECT SCHEDULE**

Preliminary design is underway. A preferred design alternative will be developed over the next few months and presented for public review and comment at a second public meeting in the summer. The anticipated project schedule is as follows:

Preliminary Design .....	Spring-Summer 2008
2nd Public Information Meeting.....	Summer 2008
Final Design Complete .....	Winter 2008
Construction Bids Received.....	Spring 2009
Construction.....	Summer and Fall 2009

**CONTACT PERSONS**

If you have questions or comments concerning the project, please contact either John Lampman at the Tompkins County Highway Division, 170 Bostwick Road, Ithaca (607) 274-0300, or e-mail at [jlampman@tompkins-co.org](mailto:jlampman@tompkins-co.org).



**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**

**Public Information Meeting - Wednesday, May 7, 2008**

<b>NAME</b>	<b>ADDRESS</b>	<b>PHONE</b>	<b>E-MAIL</b>
BRUCE BRITAIN	135 WARREN ROAD	257-0639	BSB6@cornell.edu
ROBBY ACETO	336 FOREST HOME DR	257-9545	vobbyaceto@mac.com
Jay Britton	135 Warren Rd	257-0639	-
Mary Ann Oyer	117 B McIntyre Pl	257-1971	
Edwin Oyer	117 B McIntyre Pl	257-1971	etb02@cornell.edu
Abe Stroock	115 McIntyre Pl.	269-0107	ads10@cornell.edu
Michael Bend	127 Warren Rd	319-0827	michaelbend@twcny.com
Karen Westmont	206 Forest Home	257-0115	klew12@cornell.edu
Nathan Kerst	233 Forest Home	901-605-8670	nyk46@cornell.edu
Jan Novak	115 Halcyon Hill	257-2744	DANOVIAK@grucil.com
Bar Hill	233 Forest Home	203-816-7229	bth34@cornell.edu
MIKE KOPLINNA-WEHR	124 CREST LN	257-2329	MAK11@cornell.edu
DAVID KUCKUK	229 FOREST HOME DR	257-3786	DKUCKUK@TWCNY.RR.COM
Elizabeth Sanders	16 The Burying	257-8124	mes14@cornell.edu
ANISSI-KIVISIL	326 Forest Home Dr	257 3044	JKIVISIL@ICSD.K12.NY.US
Ellen Lane	164 Halcyon	257-3129	ellenelizlane@yahoo.com
Andy Ballweg	164 Halcyon	257-3129	asg6@cornell.edu

## UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT

Public Information Meeting - Wednesday, May 7, 2008

NAME	ADDRESS	PHONE	E-MAIL
Will Palmquist		518-929-7759	wpalmquist@gmail.com
Jason Seymour		257-6760	jjs87@cornell.edu
John Sundell	310 FOREST HOME DR	257-0941	johncsundell@yahoo.com
Muffie Ochi	"	"	
Deborah Perotti	"	"	
Ruthi Mahr	103 Junc Falls	257-2672	ruthmahr@gmail.com
Alan Swank	480 FH DR	257-9501	FAY same
Barb Chambers	231 Forest Home Dr	257-6409	bchamber@twcny.rr.com
Mark Laistner	2165 Brighton Hen TL RD	585-427-8888	Laistnermr@edmanenthanycan
Jon Kanter	Town of Ithaca	607-373-1747	jkantar@townofithacany-ny.us
Robert McNerney	Fed Ex Warren Rd	257-5231	rmmcnerney@fedex.com
Nancy Trautmann	304 Forest Home Dr.	257-4875	ntrautmann@hotmail.com
Dwight Kiefer	629 Highland Rd	257-7453	dsk11@cornell.edu
ELIZABETH MOUNT	303 E. Upland R.	257-0928	elizamount@yahoo.com
Andy Galloway	104 Halkyon Hill	257-3129	asg6@cornell.edu
Ellen Lane	"	"	ellenelizlane@yahoo.com
MaryKam Trochum	200 FHD	257-7234	mkane@conceptsystems.com
George Bayen	216 Forest Home Dr	257-0454	GHB@DANICA.com

**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**  
**Tompkins County**  
**Public Information Meeting**  
**May 7, 2008**

Comments Recorded at Break-out Groups

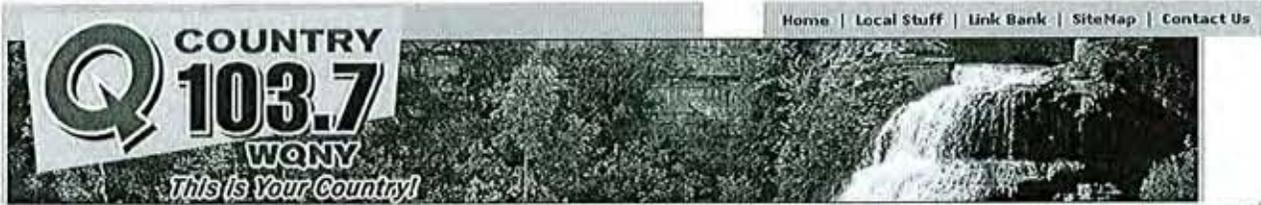
Mike Koplinka-Loehr's Group –

- Pedestrian Approach – Physical Separation, Extend Guardrail, (Curbing?)
- Preserve engineering integrity – still be working truss, not fake
  - High water flows through
  - Keeps over –weight trucks out
  - It works now
- Consider Raised “Reflectors” Likely Increase Speeds Downhill (False sense of security – not in reality safer)
- Place detour signs farther out – Alternate routes to choose
- Review evidence of safety of “cobbled” gutter
- Q: Friendly design for bats/native birds?
- Q: Wildlife corridors/passages (turtles, deer, raccoons, foxes)?
- Q: Ship Garden: Involve community in moving?
- Use of natural erratics (large stones) to define boundary
- Keep bridge low – to limit impact on neighboring properties and keep historically accurate
- Fence for Alan Fletcher's corner
- Lighter alternative to concrete deck (wood)
- Permeable surfaces on road/deck
- Toll Booth 25¢ x 5000 cars/day = \$1250/day = \$425K/year
- Add sign: - E-Z Pass
- Caution – do not increase steepness of approaches to bridge – especially @ stacking areas (concern of traction in winter)
- Tighten Caldwell/FHD intersection per FH Traffic Claming Plan: Relocate stop sign

John Lampman's Group –

- Is more than 15 tons needed by the community?
  - Legal crossing by fire trucks is a good thing
- Separate pedestrian bridge could allow maintenance of ped. traffic during construction
- Need for safe walk on Caldwell end of bridge, not shared with traffic
- Changes in surface water runoff with raised rd could cause problems
- Replace existing street lights to reduce environmental lighting

- Shipe's garden: limit impact: bridge over garden; move road away from it
- Existing deck is noisy! (Downstream bridge is much quieter since replaced with concrete)
- Steel grating is dangerous for bikes
- Detour on route 366
- "curve" walls to preserve setting and historic nature
- reduced height restriction could help keep trucks out
- Vertical curb is dangerous for bikes
- Need to prevent cars from entering Fletchers' yard
- Accidents due to: 1) running stop at Caldwell and 2) cars increasing speed up Caldwell
- Speed table off bridge on Caldwell end?
- Impact on Chambers' stairs
- Rail – open it up
- Police park in wildflower driveway to catch speeders on FHDr east
- Increase sight time from wildflower driveway to bridge
- Like old abutments



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This Is Your Country!! Q Country 103.7

**THE WAKE UP Q**

**Get 3200 Miles per Gallon??!!!!!!**

Here's the link to the video we were talking about during trivia this (Friday) morning. This guy gets 3200 mpg from WATER!!!!

[Link to the video](#)

**Daily Ramble**

Questions, Quirky Thoughts and Sometimes Quarrel Starters.

[Click Here](#)

**Here's Today's Trivia Question...**

5/7/08  
3.2 million couples in the US don't do this. What is it?  
[Read More..](#)

**Dumb Stupid Head of the Week!!!**

Here's This Week's Winner [Read More..](#)

**The Backside of the News**

[Read More..](#)

**You Have GOT to See this!**

Keep the sound turned up....

[Click here](#)

**Local News**



**No Recommendation For Future of WIC**

After A Lengthy Discussion On Wednesday, The County Health And Human Services Committee Failed To Advance A Proposal To Discontinue The County's Sponsorship Of The Women, Infants, And Children Nutrition Program. [Read More..](#)

**Forest Home Residents Weigh In On Bridge Project**

The Tompkins County Highway Division Last Night Gave Forest Home Residents An Early Look Last Night At Early Plans For The Rehabilitation Of The Truss Bridge On Forest Home Drive. [Read More..](#)

**Local Headlines**

**No Recommendation For Future of WIC**

After A Lengthy Discussion On Wednesday, The County Health And Human Services Committee Failed To Advance A Proposal To Discontinue The County's Sponsorship Of The Women, Infants, And Children Nutrition Program.

The Committee Agreed That More Research Needs To Be Conducted Regarding The Implications Of Switching Agency Sponsorships For The Program.

Committee Member Nathan Shinagawa Expressed That If A New Agency Could Run Wic With The Same Or Better Quality, He Would Consider The Discontinuation.

Issues The Committee Would Like To Further Investigate Include Whether Or Not The Transition Will Be Economical, And Whether Or Not A New Sponsorship Would Disrupt The Synergy That Wic Currently Has With Other Agencies.



**Forest Home Residents Weigh In On Bridge Project**

The Tompkins County Highway Division Last Night Gave Forest Home Residents An Early Look Last Night At Early Plans For The Rehabilitation Of The Truss Bridge On Forest Home Drive.

Project Manager John Lampman Says The Bridge Needs A Substantial Amount Of Work To Remain Open, But Some Aspects Of Exactly What Will Be Done Are Still Up In The Air.

Those In Attendance Last Night Expressed Preferences For Maintaining The Historic Nature Of The Bridge And Improving Pedestrian And Bicycle Access.

Ellen Lang Says It Looks Like A Good Idea Overall.

David Kuckuck Says He Appreciates The Neighbors Being Brought Into The Process.

Elizabeth Sanders, Though, Is Concerned That Making The Bridge Stronger Would Actually Be Bad For The Neighborhood.

Karen Westmont Says It's Important To Not Improve The Bridge So Much It Attracts Excess Traffic.

The Project Is Currently In The Design Phase, With Construction Scheduled For 2009.

**GIAC Repairs Update**

The City Sidewalk Program And Updates On The Greater Ithaca Activates Center Renovation Project Were Two Topics On The Agenda At Wednesday's Board Of Public Works Meeting.

There Was No Resolution To Update The City Sidewalk Program To City Code, But Board Member Ray Schlatter Said That There Will Be A Resolution At The Next Meeting, And That Progress Was Made On Wednesday.

As For The Giac Project, Giac Director Marcia Fort Along With Other Leaders Of The Design Team Said That Architects Have Examined The Four-Million Dollar Project And Expect To Get Proposals For The New Design Of The Downtown Building By The End Of July.



**University Avenue MOU Approved**

Cornell Finally Has Its Memorandum Of Understanding With The City Of Ithaca Concerning University Avenue.

The City's Common Council Voted Last Night To Approve The Agreement. Exact Details Will Have To Be Worked Out, But The Basics Include The City Giving Up Claim Of Ownership To The Road While Cornell Agrees To Pay For Its Needed Repairs And Maintenance And Promises To Keep It Open To The Public.



**Chemical Spill Brings Investigation In Ithaca**

Ithaca Fire Crews Were Called To Cherry Street In The City Just Before 11:30 Wednesday Morning For A Reported Trailer Fire.



**ON Q NOW!**



6:00am - 10:00am  
Chris Allinger  
[E-Quest Line]



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**ARTIST NEWS**



**RASCAL FLATTS ANNOUNCES "BOB THAT HEAD" TOUR-- INCLUDES SYRACUSE!!**  
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## **WORKING GROUP MEETING 3**

## Working Group Meeting Summary

### FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450 UPSTREAM BRIDGE REHABILITATION

November 5, 2008; 12:00 P.M.

Forest Home Chapel

#### Present:

Bruce Brittain, Forest Home	Fred Noteboom, Town of Ithaca
Sara Johnson, Historic Ithaca	Dan Walker, Town of Ithaca
Hal Martin, Cornell Plantations	William Sczesny, Tompkins County Highway
Will Palmquist, Cornell Transportation	John Lampman, Tompkins County Highway
Tanya Husick, Cornell Transportation	

An attendance sheet was distributed and is attached

1. Project status update. Erdman Anthony (EA) has prepared a draft Design Report (DR), which was previously distributed via e-mail to all the stakeholders, and is working on design elements for Alternative 3. John Lampman has recently submitted pertinent DR sections to SHPO for review. SHPO's concurrence and/or comments on the alternatives will be appended to the DR once they are received. If needed, the County will also direct design and document changes to secure SHPO's concurrence. Bruce believes SHPO will not concur with the separate pedestrian bridge.
2. Cornell Involvement. Cornell has committed \$160,500 to the project as part of its Community Transportation Investment Initiative. This funding is secure since the project is underway for 2009 construction. Plantations will also be contributing expertise regarding plantings. Hal Martin will confirm whether funding will also be available for realigning the wildflower garden access drive at the Caldwell Rd. intersection.
3. Draft Design Report Discussion. Bruce is disappointed with the draft DR, saying it contains the same design that was presented to the community in April and does not address the concerns expressed then, at working group meetings, or reflected in the drawings he provided this summer. Several Traffic Calming Plan elements are also ignored. He distributed a letter to the group listing his specific concerns (attached.) John addressed several of these points, which are discussed in section 5 of this summary. Bruce also provided a copy of detailed comments to John. Fred said he liked Alternative 3 since it builds a stronger, more durable bridge for \$250,000 less than Alternative 2.
4. Town's Construction Plans. Dan displayed a plan showing existing features between the bridge and Warren Road. Fred does not plan full reconstruction of the road since its base appears solid. The water line will be replaced in this area. The Town will end its water work west of the bridge at the end of the project limits shown on the plan in the DR. Water line replacement as part of the bridge project shall extend from there (approx. station 8+40) to the west side of the Caldwell Road intersection (approx. station 11+70.) The Town will review the need for water line replacement on Forest Home Drive east of Caldwell Road. Dan will let John know next week whether this section will be replaced. If it were, the Town would leave a valve to tie into in that area, too. The Town will not start any construction until the bridge is closed. Hal requested that no construction begin before Cornell reunion weekend, June 4 – 7, 2009.

(Roadway details between the bridge project limits and Warren Road were discussed briefly. Suggestions included a curb on the curve with the retaining wall, and replacing that retaining wall with a stone-faced concrete wall.)

5. Bridge Plan Details. Plans, cross-sections, and profiles from the DR were distributed.

- a) Bridge Features. Alternate wearing surfaces were discussed for both alternatives. The Town did not want timber due to plowing concerns. No one was satisfied with open grating. Half-filled grid with concrete overfill was suggested as a means of reducing dead load. Bruce believes the original bridge surface was concrete and hopes to find an Ithaca Journal article from 1910 (when NYS took over road) confirming that. Sara thought SHPO would be comfortable with a concrete deck.

Trusses on the Alt 3 bridge should be the same height relative to the deck as they originally were. Bruce suggested there be recurrent elastomeric connections between the trusses and the girder bridge to account for the flex of the girders under load.

Abutments are from the previous bridge (built in 1860) and are deteriorating. New abutments would be formed-lined concrete to simulate existing stones. Form-liners should not be what were used on the downstream bridge. Building the new abutments in front of the old instead of removing the old will be considered.

The sewer detail on Alternative 3 has not been finalized. If the sewer is moved it could be placed between the girders.

Bruce opposed a simulated timber pedestrian bridge surface, preferring actual timber. John recalled that at least the idea of a concrete deck was acceptable at an earlier group meeting.

The sidewalk on the downstream bridge is cantilevered off the side of the vehicle bridge. This may be preferable to SHPO.

- b) Railings. W-beam would not be used for railing on either bridge alternative. 3x5 box beam railing is preferred. The Alt 3 bridge railing should not be mounted to the trusses but on posts on the deck. "Wishbone" type transitions to approach rail were suggested. Also, the upstream side rail should be between the road and the sidewalk. The sidewalk rail should basically replicate that on the downstream bridge. (Toe plate modifications may be appropriate.) Guide rail on the Plantations corner should terminate quickly instead of running all the way to the wildflower garden entrance.
- c) Retaining Walls. The condition of the wing wall on Chambers is unknown. Wall on Fletcher could be segmental block but should be attractive. Building in front of the old wall was discussed instead of removing the old. Lilacs and other plantings should be protected. Also, curving wall within right-of-way may be desirable. Impact on Shipe's property should be reduced. Moving the wall 6 feet into lawn as shown on the plan was too much in Bruce's opinion.
- d) Wildflower / Filtration Plant Driveway. Hal will check on whether combining the driveways is desirable to Cornell. There is an accident history at the wildflower entrance; sight distance through the bridge is poor. The driveway is a remnant of an old through road leading to the west side of the downstream bridge.
- e) Shoulders, Sidewalks, & Curbs. The County discussed the alternatives with the Town Public Works Committee during the summer. That committee voted against

textured (Belgian block) shoulders for the sake of usage by bicycles. A surface-treated shoulder may also be too rough for bicyclists. Integrally colored asphalt and paint are options. Paint may not last long enough. They may not be rough enough according to the Traffic Calming Plan. A concrete gutter section may be a compromise.

Eliminating the 3-foot offset between the curb and sidewalk was suggested. The Town will consider its snow storage options before agreeing to this.

All were satisfied with a stone dust surface for approach sidewalks. This will more easily afford the addition of lighting should that be wanted in the future.

All questioned the sidewalk along Caldwell Road. It is not called for in the Traffic Calming Plan. A walk heading diagonally into the Plantations may be preferable. Hal will discuss sidewalk alignment with Plantations staff and get back to John.

Fred suggested standardizing crosswalk markings throughout the County.

- f) Drainage. Gutters will be beneficial for carrying water away from the bridge on the downstream side of the road. Hal will check on drainage preferences on the Plantations corner. Options there include a drop inlet and culvert carrying water across wildflower driveway to the manhole on its east side or a mulched bed with salt-resistant plants where runoff would be filtered before returning to the creek.

The Town offered to run a camera through the storm sewer that begins west of Shipe's driveway to try to determine its alignment.

- g) Alignments. The Town is willing to consider the Traffic Calming Plan regarding the intersection treatment at Caldwell Road. The plan would reduce the radius on the west side of Forest Home Drive at Caldwell to 25'. Caldwell lane widths would be reduced to 9 feet, if there are no TCAT bus routes through the intersection. (TCAT's web site shows route 37 no longer uses the bridge or Caldwell Road. TCAT is uncomfortable using Forest Home Dr because of the narrow curves between the bridge and Warren Rd.)

John reported EA believes a superelevated curve on Forest Home Drive through the intersection is unwarranted. The vast majority of traffic is does not make the curve. The DR includes some realignment, making the intersection more of a Y than a T. See Bruce Brittain's letter for additional comments on this intersection.

Shifting the bridge downstream could improve sight distance for vehicles approaching the bridge from the west and for vehicles exiting the wildflower garden.

6. Warren Hill Construction. County Planning has modeled traffic flow with both the bridge and Warren Road hill closed. The Highway Division has decided to delay work on the hill to reduce traffic impacts on surrounding neighborhoods.

7. Next Public Meeting. A January meeting will be scheduled after another work group meeting.

Respectfully submitted,  
John R. Lampman, P.E.

Attachments (attendance list, Bruce Brittain letter of 11/5/08)

xc: Attendees, Mark Laistner @ Erdman Anthony, James Warren @ SHPO

# Attendance List

Hal Martin	CU Plantation	277-2095	hsm6@cornell.edu
BRUCE BRITTAIN	FOREST HOME		BSB6@CORNELL.EDU
SARA JOHNSON	Historic Ithaca		saj8@cornell.edu
DAN WALKER	TOWN OF ITHACA	2731747	DWALKER@TOWN.ITHACA.NY.US
Fred Nobles	TOWN of Ithaca	273-1656	
Will Palmquist	Cornell Transportation	255-9170	wps2@cornell.edu
Tanya Husick	Cornell Transportation		tmh78@cornell.edu
Wm. Szesary	T.C. HWY		2740300
John Lampman	" "		274-0307

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Sunday, November 16, 2008 10:30 PM  
**To:** John Lampman  
**Cc:** Hal Martin; Sara Johnson; Tanya Husick; William Palmquist; Jessica Evans; dwalker@town.ithaca.ny.us; fnoteboom@town.ithaca.ny.us; Doug Mills; William Sczesny  
**Subject:** Re: Working Group Meeting Summary

Hi All--

It was nice to see everyone at the recent upstream bridge Working Group meeting. I'm sorry I had to run at the end; it would have been fun to watch the tractor-trailer try to turn around.

Thank you, John, for the detailed meeting summary. I am impressed that you are able to run a meeting, participate fully, and take copious notes all at the same time.

To John's meeting summary, I would like to add the following items, that I believe were discussed:

5 a) Bridge Features

Discussed possibility of pedestrian-scale lighting on bridge. No conclusion.

5 d) Wildflower Garden / Filtration Plant Driveways Discussed possibility of paving entrance to Wildflower Garden parking lot as part of project. I think we did agree to do this.

5 e) Sidewalks, Shoulders and Curbs

Discussed need for pedestrian "landing" at corner of Arboretum adjacent to Forest Home Drive / Caldwell Road intersection. Hal mentioned that Plantations may construct an entrance to the Arboretum here, possibly to include stone steps, and possibly before next summer.

5 f) Drainage

Discussed whether or not to include curbs on bridge, and how their presence or absence would affect guiderail mounting posts.

5 g) Alignments

Erdman Anthony was going to take another look at the roadway design drawings that I submitted last July.

7. Public Meeting

John indicated that he would distribute to the Working Group the public comments gathered during the first Public Meeting. Also, Erdman Anthony was going to draw up new plans for the bridge and approaches before the next Working Group meeting.

In addition to the specific comments above, I have some additional thoughts about the project, which are spelled out below:

WARREN ROAD HILL

The major traffic flow through Forest Home is north-south, with a minor east-west component. Consequently, almost all traffic passing through FH crosses one bridge or the other, or both. Closing the upstream bridge for the summer will redirect the traffic that normally takes that bridge to the downstream bridge, or to other creek crossings outside the neighborhood. Closing

Warren Road hill for construction at the same time that the USB is closed should not cause much additional disruption. Traffic that used to take the Caldwell-USB-Warren route will already be redirected to take Judd Falls Road and the downstream bridge. Having these vehicles stay on the western side of Forest Home and enter/exit the neighborhood via Pleasant Grove Road, rather than Warren Road, should not be that much of an additional hardship. In fact, it might well be less disruptive to have these two projects done at the same time, rather than to detour traffic around FH for two consecutive summers. I would like to remind the Working Group that construction of the pedestrian walkway on the Warren Road hill is a priority of the FH community. If there is any way to get the reconstruction of the hill back on the agenda for this summer, it would be greatly appreciated.

## SHOULDERS

As you may recall, our consultant was adamant that pavement width not exceed 18 ft. Wider pavements encourage higher vehicle speeds, and are significantly more dangerous for pedestrians to cross, as explained in the FH TC Plan. All stakeholder groups were willing to accept an 18 ft pavement width, with granite edging, although the County insisted that the total hard-surface width be 21 ft (at least on County roads). This is therefore what the FH TC Plan calls for.

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One concern with Alternative 2 (the load-bearing truss option) was that the truss might not be strong enough to carry more than its original rating of 15 tons. I believe that John indicated that it is the top chord of the truss that is the limiting factor in its strength. If so, then it might be possible to strengthen the truss by reinforcing the top chord, perhaps by inserting another member inside of it. This could be done by removing a section of cover plate near the top of each inclined end chord, threading the new structural member into the top chord, then replacing the sections of cover plate. In any case, strengthening old truss bridges is an established field of practice, and I'm sure that there are numerous examples that we could learn from. We don't have to reinvent the wheel here (although we probably could).

## ROLE OF ERDMAN ANTHONY

The specific design of the Forest Home Drive / Caldwell Road intersection, with its "bump out," super-elevation, and southern curb-line alignment, was developed in order to improve the safety and functioning of this part of the roadway. Each component plays a contributing role, although that may not be immediately obvious to the casual observer. Erdman Anthony did not see the necessity of these features, and so did not include them in their draft roadway design. The Forest Home community and the traffic calming consultant both made it clear that the USB project should not result in any major intrusions on any residential properties, especially the Shipe's. Erdman Anthony saw no problem with such intrusions, and so developed a draft design which takes six feet of the Shipe's lawn.

What exactly is Erdman Anthony's role in this project? If they are the ones determining the direction of the project, then I'm not sure what the role of the Working Group is, or why Forest

Home bothered to hire an independent consultant to develop a traffic calming plan for the community. If, on the other hand, Erdman Anthony's role is to develop a detailed design that meets the guidelines set by the Working Group, then I think they have to be reminded of that. If the Working Group agrees that the FHD/Caldwell intersection should incorporate the traffic calming features spelled out in the FH TC Plan, and that major intrusions into residential areas should be avoided, then this should be conveyed to Erdman Anthony, and I'm sure that they will be able to develop detailed plan drawings that are consistent with our wishes. (Please note that I am not trying to speak for the Working Group on these issues; it just seems that we have been too willing to acquiesce to Erdman Anthony's this-is-the-way-we-typically-do-it approach to the design of this project.)

John, I would be happy to meet with any and all Erdman Anthony personnel who are involved with this project, in order to explain the details of the FH TC Plan, and the rationale behind them.

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I hope to find and scan the old photos that I have of the bridge and send them to John and Historic Ithaca later this coming week. If anyone else would be interested, I can send you a copy at the same time. Please let me know.

Again, it was nice to see everyone at the WG meeting. I look forward to further progress on this important project.

--Bruce

On Nov 13, 2008, at 3:39 PM, John Lampman wrote:

> Everyone,  
>  
> Attached is a summary of our November 5 working group meeting. Please  
> let me know if there is anything that should be changed.  
>  
> Thanks  
> John L.  
> <WRK\_GP3\_smry.doc>  
> <BB\_DDR\_cmnts.pdf>  
> <wrk\_gp3\_attend.pdf>

**From:** John Lampman [jlampman@tomkins-co.org]  
**Sent:** Monday, November 17, 2008 8:53 AM  
**To:** Bruce Brittain  
**Cc:** Hal Martin; Sara Johnson; Tanya Husick; William Palmquist; Doug Mills; Jessica Evans; William Sczesny; dwalker@town.ithaca.ny.us; fnoteboom@town.ithaca.ny.us  
**Subject:** Fwd: Re: Working Group Meeting Summary

**Attachments:** PM1cmnts.pdf

Bruce,

The notes from the Public Meeting we held in May are attached. Do you remember what the 'raised reflectors' comment refers to?

Thank you for catching some of the points I missed in the meeting summary. Some clarifications;

5 a) When we discussed lighting on the bridge, I think it was just on the approaches instead of actually out over the creek. Right?

5 d) Although not specified in detail, the plan shows rebuilding the entrance to Wildflower Garden parking lot and I interpreted that as paving. This or realignment to a lone entrance could be done as part of the project.

5 e) If Plantations will be building an entrance to the Arboretum at the Forest Home Drive / Caldwell Road intersection, we should definitely indicate that on the plans and coordinate what is done at the intersection. Please get back to me on this, Hal.

John

>>> Bruce Brittain <bruceb2@mindspring.com> 11/16/2008 10:29 PM >>>  
Hi All--

It was nice to see everyone at the recent upstream bridge Working Group meeting. I'm sorry I had to run at the end; it would have been fun to watch the tractor-trailer try to turn around.

Thank you, John, for the detailed meeting summary. I am impressed that you are able to run a meeting, participate fully, and take copious notes all at the same time.

To John's meeting summary, I would like to add the following items, that I believe were discussed:

5 a) Bridge Features

Discussed possibility of pedestrian-scale lighting on bridge. No conclusion.

5 d) Wildflower Garden / Filtration Plant Driveways Discussed possibility of paving entrance to Wildflower Garden parking lot as part of project. I think we did agree to do this.

5 e) Sidewalks, Shoulders and Curbs

Discussed need for pedestrian "landing" at corner of Arboretum adjacent to Forest Home Drive / Caldwell Road intersection. Hal mentioned that Plantations may construct an entrance to the Arboretum here, possibly to include stone steps, and possibly before next summer.

#### 5 f) Drainage

Discussed whether or not to include curbs on bridge, and how their presence or absence would affect guiderail mounting posts.

#### 5 g) Alignments

Erdman Anthony was going to take another look at the roadway design drawings that I submitted last July.

### 7. Public Meeting

John indicated that he would distribute to the Working Group the public comments gathered during the first Public Meeting. Also, Erdman Anthony was going to draw up new plans for the bridge and approaches before the next Working Group meeting.

In addition to the specific comments above, I have some additional thoughts about the project, which are spelled out below:

#### WARREN ROAD HILL

The major traffic flow through Forest Home is north-south, with a minor east-west component. Consequently, almost all traffic passing through FH crosses one bridge or the other, or both. Closing the upstream bridge for the summer will redirect the traffic that normally takes that bridge to the downstream bridge, or to other creek crossings outside the neighborhood. Closing Warren Road hill for construction at the same time that the USB is closed should not cause much additional disruption. Traffic that used to take the Caldwell-USB-Warren route will already be redirected to take Judd Falls Road and the downstream bridge. Having these vehicles stay on the western side of Forest Home and enter/exit the neighborhood via Pleasant Grove Road, rather than Warren Road, should not be that much of an additional hardship. In fact, it might well be less disruptive to have these two projects done at the same time, rather than to detour traffic around FH for two consecutive summers. I would like to remind the Working Group that construction of the pedestrian walkway on the Warren Road hill is a priority of the FH community. If there is any way to get the reconstruction of the hill back on the agenda for this summer, it would be greatly appreciated.

#### SHOULDERS

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> <BB\_DDR\_cmnts.pdf>

> <wrk\_gp3\_attend.pdf>

**From:** John Lampman  
**To:** Hal Martin  
**Date:** 11/21/2008 2:59 PM  
**Subject:** Re: Forest Home bridge

Hal,

Thanks for the input. That is enough for us to go on right now.

John

>>> Hal Martin <[hsm16@cornell.edu](mailto:hsm16@cornell.edu)> 11/21/2008 1:48 PM >>>

At 02:52 PM 11/14/2008, you wrote:

>Hi, Hal.

>

>Have you had any luck with answers to any of these questions?

>

>

>Is combining the wildflower garden access and filter plant driveway

>desirable if it was paid as part of the project?

Combining the two driveways would be desirable if it was paid for by the project.

>Would additional funding be available to realign the driveways, if  
>needed?

No funding can be identified.

>Does Plantations prefer a sidewalk along side Caldwell Road or should  
>it cut diagonally into the Plantations area?

Plantations preference for a sidewalk is to have it directed diagonally into the arboretum and eventually connect to the road or a walkway within the Arboretum. We do not favor a sidewalk along the road. We will be constructing a temporary set of tie steps and landing at the corner of Caldwell and Forest Home to give pedestrians a safe means of exiting and entering the intersection.

>Does Plantations have drainage preferences for the area between the  
>bridge and the wildflower garden access? I.e., a depression to filter  
>run-off, a swale to the manhole between the two driveways, or something  
>else?

Todd Bittner, Director of Natural Areas is reviewing options for storm water management. I will forward his recommendation as soon as possible.

Hal!

>Thanks  
>John

**DATE:** November 5, 2008  
**TO:** Upstream Bridge Working Group  
**FROM:** Bruce Brittain *BB*  
**RE:** Major Concerns with Draft Design Report, dated October 2008  
(Note: Other concerns have been indicated directly on the Report)

- Lack of progress since last Public Meeting; drawings appear to be unchanged since May 7 Public Meeting
- Public input seems to have had no influence on the project
- SHPO's input has evidently not been sought to help shape this project
- Draft Design Report is inconsistent with Forest Home Traffic Calming Plan
- There is no need for a major intrusion into Shipe's yard (or any adjoining property)
- Kink in curb line at approaches to bridge needs to be sharp enough to define end of stacking area
- Kink in curb line at approaches to bridge needs to be located so that drivers waiting on either side can see each other
- Kink in curb line at Caldwell Road approach to bridge needs to be closer to bridge in order to provide more stacking area between intersection and bridge
- Curb line on exits of bridge should be smooth, with no kink
- Intersection needs "bump-out" on straight-through side to slow out-bound traffic
- Intersection needs super-elevation through curve of Forest Home Drive to decrease speed of straight-through traffic and to (slightly) increase speed of turning traffic
- Shoulder width should be 1' 6" throughout, not 1' 8" as shown
- Shoulder material should be specified as granite block, not continuous asphalt pavement as shown
- Lane width on Caldwell Road should be 9 ft, not 10 ft as shown
- No curb is necessary on Caldwell Road, except at intersection to help control vehicle movements
- Bridge deck height should be in original location relative to truss. If original relation is unknown, then original plans for downstream bridge can be checked for reference
- Existing W-section guiderail should be replaced with standard two-bar box-section bridge rail
- New bridge rail should be supported by posts anchored to bridge deck or floor beams, not by trusses as shown
- New bridge rail should transition to box-beam guiderail with simple wishbone, as at downstream bridge, rather than with long transition as shown
- Where present, guiderail should be between road and walkway, separating pedestrians from motor vehicles
- Water and sewer lines can be rerouted so as to be under bridge
- There is no need for a separate pedestrian bridge, and it is not historically appropriate
- Walkway deck on bridge should be honest material, preferably timber; not concrete masquerading as timber

## **WORKING GROUP MEETING 4**

## Working Group Meeting Summary

### FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450 UPSTREAM BRIDGE REHABILITATION

December 15, 2008; 1:00 P.M.

Forest Home Chapel

#### Present:

Bruce Brittain, Forest Home	Fred Noteboom, Town of Ithaca
Hal Martin, Cornell Plantations	Dan Walker, Town of Ithaca
Will Palmquist, Cornell Transportation	William Sczesny, Tompkins County Highway
Tanya Husick, Cornell Transportation	John Lampman, Tompkins County Highway

1. Alternative 3 as preferred alternative. A consensus was reached that Alternative 3, replacement of the existing floor system with a new multi-girder superstructure, is the preferred alternative. Bruce still had some reservations. John reported that SHPO's primary concern with this alternative was the surface of the bridge walkway, supporting Historic Ithaca's preference for a wooden surface.
2. Design Points.
  - a. Bridge Features.
    - i) Truss/Deck Elevation Relationship. The deck elevation will vary through the bridge since the girder depth varies. The design should match the historic truss/deck elevation relationship at the entrances to the bridge, unless, if a cantilevered walkway bridge is designed, this location hinders design of walkway support brackets.
    - ii) Abutment Removal. Trusses will not be removed during construction. They will not be relocated laterally either due to cost. The abutments will be replaced in their existing locations to avoid reducing the hydraulic opening, which FHWA will not permit in a flood study area such as this. The new concrete abutments will be made with form-liners to simulate laid stone. The form liner pattern will be determined in final design.
    - iii) Sewer Support. Supporting the sewer line in-place is proposed to save cost. This would mean the trusses would still support it. However, the Town, believing the sewer is made of asbestos-cement pipe, may want to replace it. If replaced, support by the girders could be considered. The Town will decide about this in January.
    - iv) Bridge Walkway. The following options will be discussed at the upcoming public meeting:
      - (1) Design: Separate vs. Cantilevered. The County prefers a separate walkway bridge for simplicity of design and construction and reduced maintenance cost. It could also allow maintenance of pedestrian traffic during construction. SHPO is OK with a separate structure.

Cantilevering from the girders would eliminate possibility of concrete walkway deck. Since the beam required for this bridge is much shorter than that at the downstream bridge (2-3' compared to 4'), designing support brackets that fit on the beams could be a problem, both in the brackets themselves and fitting the truss lower chord through the brackets. A minimum 8" high space

through the bracket would be required to fit them around the lower chord. This could limit truss/deck elevation relationship options. Some girder height could be gained with a more expensive half-concrete-filled grid deck.

If cantilevered, the water line would be moved to the middle vehicle bay.

Cost savings would be possible if cantilevered by eliminating the walkway bridge girders and the railing between the walkway and the vehicle bridge. This would be balanced by the cost of brackets and heavier vehicle girders.

(2) Surface: Concrete vs. Timber. Concrete is proposed. Given its maintenance advantages, Dan would recommend concrete to the Town Board. Historic Ithaca has requested timber, which is also supported by SHPO. Bruce's preferences are timber first (perhaps locust), followed by a composite that resembles wood (if UV radiation is not a concern). Pressure-treated wood may be too slippery. The weight of concrete will help prevent bounce felt by pedestrians as they cross. Timber could be up to \$30,000 cheaper.

v) Railings. The County recommends placing 3x5 box beam railing on the trusses instead of separate posts. Recessing separate posts in truss gaps would cause increased concrete forming costs. Not recessing them would lead to the loss of a foot of width from the travel lane, negatively impacting bicycle safety. Mounting to the trusses also saves the cost of posts and additional concrete for wider curbs (14" min). While the downstream railing would continue off the bridge onto the approaches, the upstream railing could end at and be flush with the line of the truss end posts.

b. Approach Typical Section.

i) Curb/Walkway Separation. Photo simulations of the walk on the west approach were reviewed. Some separation between the curb and the walk will be needed to account for the width of the truss. Extending the bridge rail off the upstream truss would require additional width. Perhaps rail could be extended only part way to the Shipe's driveway. (Using 8" wide median barrier was recommended for any rail along the sidewalk to remove pedestrian hazards.) The Town is willing to reduce snow storage space to allow reducing separation to 1-7" from 3 feet.

ii) Walkway/Retaining Wall Separation. Without rail at the curb, the rail outside the walkway would need to be structural. The County proposed a wider separation as a place to install rail and avoid the extra cost of mounting structural rail on top of the railing wall.

iii) Concrete Gutter. It was agreed that a separate gutter section would not be included on either side of the road on the bridge approaches, say between the west edge of the Shipe's driveway and the east edge of the wildflower garden entrance.

iv) Railings. Pictures of wooden railings used in the 1920s were distributed. As discussed at the previous meeting, replicating the lattice railing on the downstream bridge is an option. Railing options would be limited if structural railing is needed, i.e., no vehicle rail at the curb on the approaches. Options can be developed for the public meeting.

"Wishbone" type transitions to approach rail were discontinued by NYSDOT in the late 1980s. However, they were approved for use at the downstream bridge

in 1996. Guide rail on the Plantations corner will terminate about 50 feet off the bridge instead of extending to the wildflower garden entrance. Bollards may be used to protect the vaults near that driveway.

- c. Retaining Walls. Attractive segmental block walls are acceptable at Fletcher's (northeast corner). A partial replacement of the laid stone wall at Shipe's (northwest corner) with stone-veneer concrete may be possible. Transition between wall types could be problematic. Work at both walls may necessitate replacement of existing plantings. Chambers wall (southwest) will not be changed.
- d. Alignments / Traffic Calming Details.
  - i) Queuing Area "Kinks". The group reviewed sketches prepared by Bruce of possible alignments. The "queuing kink" on the northeast corner can be placed at station 10+90± (or 11+00 to avoid ROW impact) as per the Traffic Calming Plan (TCP). The configurations shown in Bruce's figures 2 & 3 are similar and generally acceptable to the group. Both minimize impact on existing retaining walls but would require at least partial replacement of Shipe's wall. Both stop traffic west of Chambers' walk/steps.
  - ii) Caldwell Intersection.
    - (1) Alignment. Plan alignment is acceptable. It is basically as shown in TCP.
    - (2) Superelevation. TCP calls for a superelevated curve at Caldwell. The bridge plan does not have this since the straight movement is predominant. Superelevation would typically be provided if the turn to Forest Home Drive was the primary movement. The County is concerned about the increased potential for drivers to loss control while turning onto Caldwell against the superelevation. It would also increase the length of approach work required on Forest Home Drive to the east, and may complicate intersection drainage issues.
    - (3) Lane Width. TCP has 9' lanes on Caldwell and 10' on bridge approaches; bridge plan has opposite. Existing widths vary from 9' to 10'.
    - (4) Work Limits. The plan shows reconstruction ending south of filtration plant driveway. If both driveways remain, the limit will be shifted to between the driveways.
    - (5) Miscellaneous. The Town is reconsidering the acceptability of a stone dust walkway surface. The sidewalk along Caldwell Road will be removed from the plan. Cornell will design a walk heading diagonally into the Plantations from the Caldwell intersection. A "landing" to connect with this walk will be all that this project constructs.
  - iii) Wildflower / Filtration Plant Driveways. Cornell will not be able to pay for relocating the wildflower garden driveway as part of the project. Doing this within the project would require survey and ROW mapping and a higher construction cost than might be expected if done outside the project
- e. Drainage. TCP shows inclined granite curbing along Caldwell. Plan also shows curb on east side of Caldwell. Discussion at last meeting supported maintaining existing ditch on east side of Caldwell.

The Town ran a camera through the storm sewer that begins west of Shipe's driveway but was unable to determine its alignment and terminus.

The County and Plantations will communicate more on runoff treatment options at the southeast corner of the bridge to be designed by Plantations.

- f. Lighting and landscaping. This topic was not discussed.
3. Next Public Meeting. A January meeting will be scheduled.

Respectfully submitted,  
John R. Lampman, P.E.

xc: Attendees  
Alphonse Pieper @ Historic Ithaca  
Mark Laistner @ Erdman Anthony  
James Warren @ SHPO

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Monday, December 22, 2008 9:42 AM  
**To:** John Lampman  
**Subject:** Upstream Forest Home Bridge

**Attachments:** FHTCP.Fletcher.Curblin.Detail.pdf; ATT1913023.txt

Hi John--

Thank you for a productive meeting. We seem to have covered a lot of ground, and to have made several important decisions. I hope I wasn't too accommodating, and didn't give in too much to peer pressure. Particularly in regards to the bridge walkway. While I can understand the design and maintenance advantages of a separate, concrete-decked walk, a cantilevered, wood-decked walkway would be much more historically correct, and, in my opinion, far superior. I guess we can see what the public thinks at the upcoming Public Meeting.

We briefly discussed the location of the kink in the roadway approach curblin on Fletcher's corner. Attached FYI as a pdf file is a closeup of that area from the FH TC Plan. The location of the kink shown was chosen to allow for adequate stacking area, and to allow drivers on this side of the creek to see any drivers who might be waiting at the kink on the other side of the creek, in front of Chamber's house. The drawing was drawn at 10 scale (1 in = 10 ft), but the dimensions might have shifted a bit going through my scanner, the phone lines, and your printer. Please let me know if you have any difficulty in opening the file.

Best wishes for a Merry Christmas and a Happy New Year!

--Bruce

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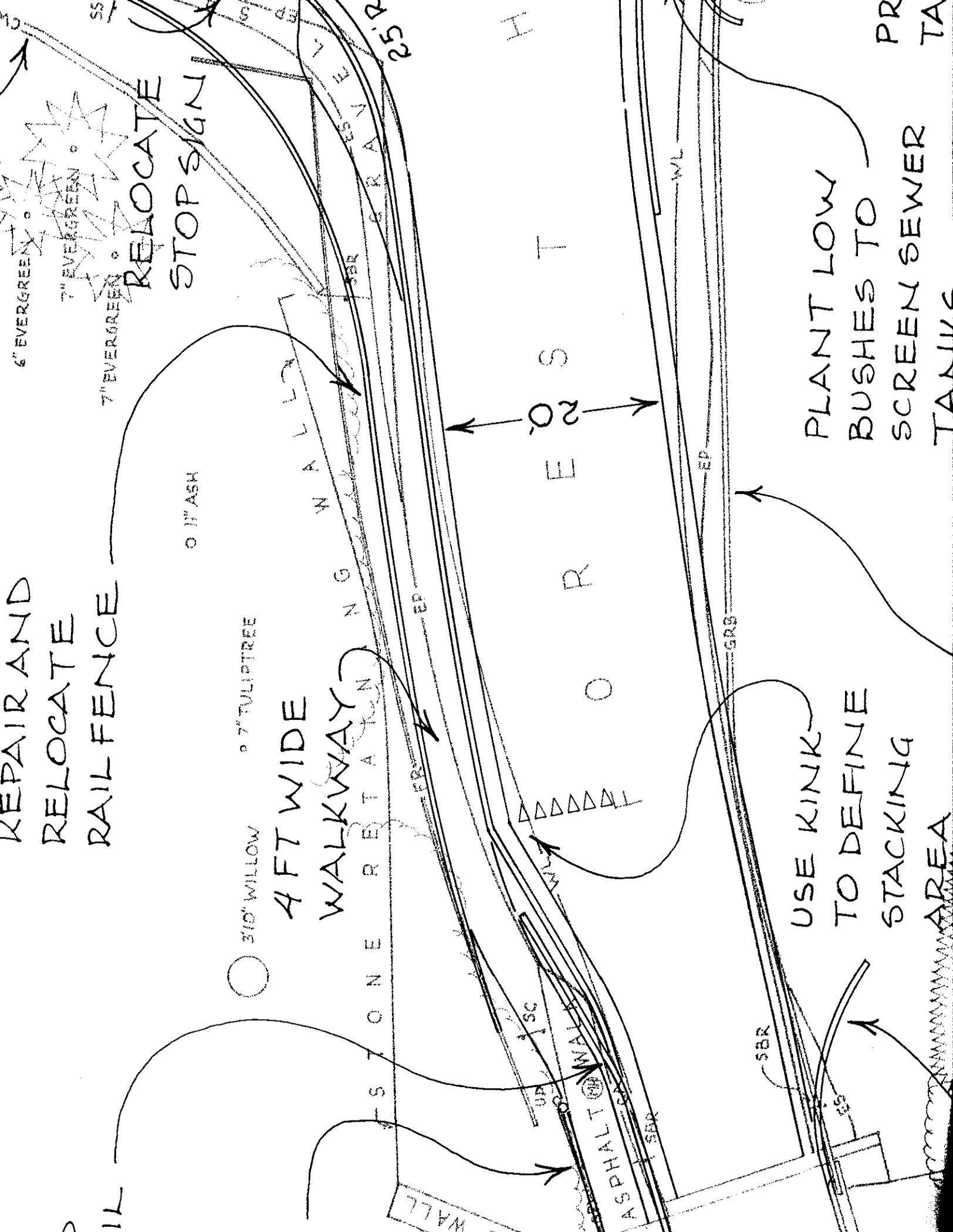
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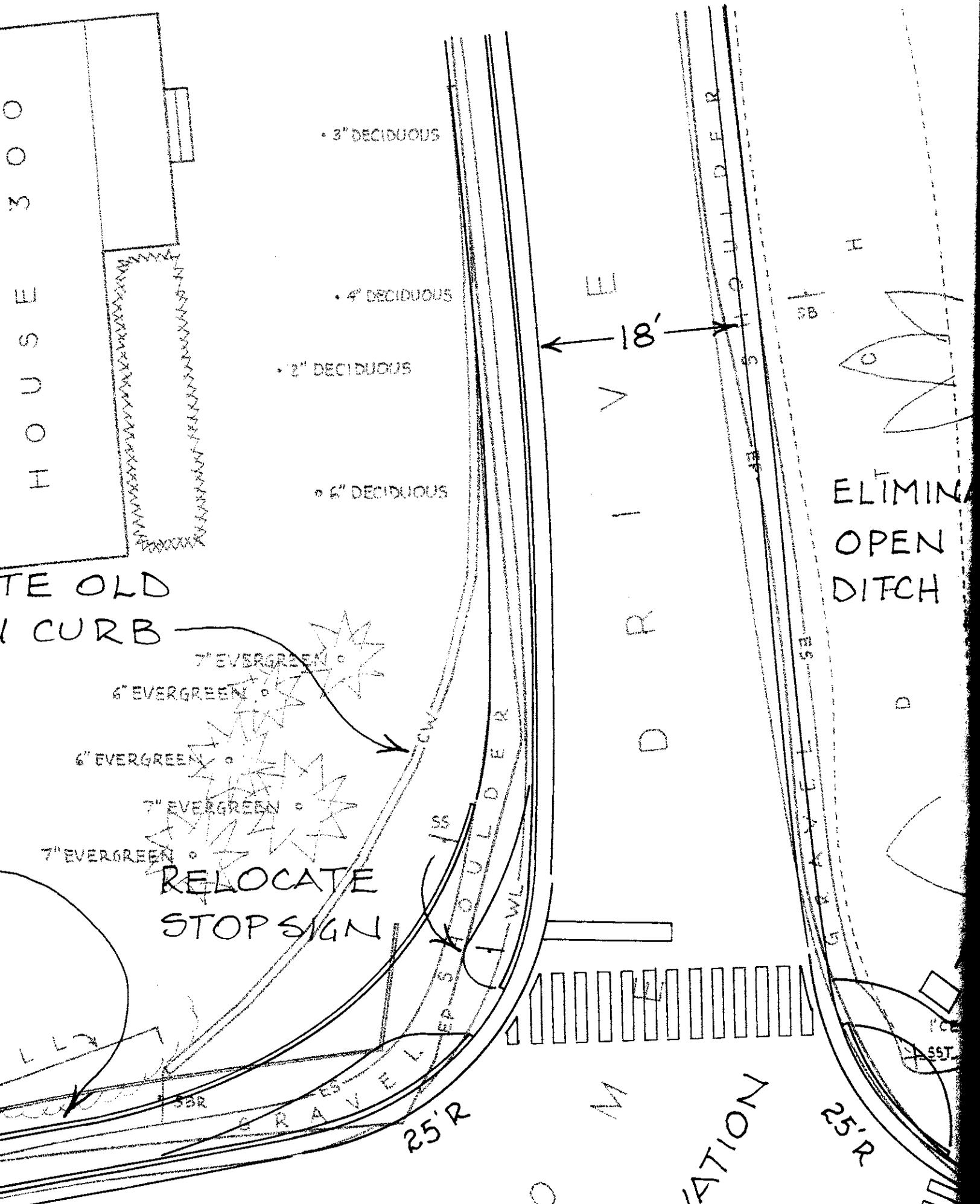
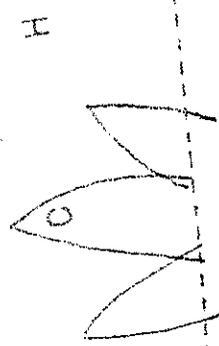
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**From:** Bruce Brittain [bruceb2@mindspring.com]

**Sent:** Friday, January 30, 2009 3:00 PM

**To:** John Lampman

**Cc:** Hal Martin; Tanya Husick; Will Palmquist; Alphonse Pieper; DWalker@town.ithaca.ny.us; Fred Noteboom; Dooley Kiefer; sara.anne.johnson@gmail.com; William Sczesny

**Subject:** Re: Bridge Group Meeting Summary

**Attachments:** USB.Cantilever.WW.Des.pdf; ATT1913054.htm

(John: I have sent this to the typical list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you. See you next week.)

Hi All--

Thanks to John for the summary of our fourth Working Group meeting.

To John's summary, I would like to add the following points:

#### DATE

I believe that the meeting was held on December 19, not Dec 15, as indicated in John's summary.

#### ATTENDANCE

I believe that Tanya was not present at the meeting.

#### ABUTMENTS

I took another look at the abutments. It looks like the existing western (Shipe/Chambers) stone abutment is in good shape. The eastern approach wingwall (Fletcher) also looks good. It's the eastern (Fletcher/Wildflower) abutment, with its half stone / half concrete construction that may be problematic. Interestingly, it's the newer concrete that seems to be in worse condition than the older stone work. Could we perhaps retain the existing western abutment in place, and just replace the eastern one, or the concrete part (Wildflower) of the eastern one?

#### BRIDGE WALKWAY DESIGN: SEPARATE vs CANTILEVERED

John mentions that having a separate walkway would be an advantage, in that it would allow for the maintenance of pedestrian traffic during construction. However, I think the Work Group decided that a separate walkway would NOT provide this advantage, given that the abutments will likely be removed and the approaches will be all torn up.

Although John mentions that SHPO would accept a separate walkway structure, the meeting summary should also probably note that we discussed the fact that a cantilevered walkway would be more historically appropriate.

John mentions that designing a cantilever bracket to support the walkway may be difficult. However, this should not be an insurmountable task. Attached (as a pdf document) is a draft design that I came up with, based on that used on the downstream bridge. As we discussed at the meeting, positioning the lower chord of the truss above the walkway support bracket would maintain the existing truss-to-deck vertical relationship, and would address John's concerns about threading the lower chord through the cantilever bracket.

The way I drew it, there is no connection between the cantilever bracket and the lower chord. However, there could be. In fact, this might be a straightforward way to supply the necessary lower chord-to-girder attachment, at least on the walkway side of the bridge. Such a connector would probably have to have an elastic component. Since the trusses will be stiffer than the girders, a rigid connector would mean that the trusses would pick up the vehicle load as the girders sag under the weight of passing traffic. This is something that we would want to avoid, since we have determined that the girders, not the trusses, should carry the load (Alternative 3).

I also did not include any diagonal bracing within the cantilever support brackets. (None are used on the downstream bridge.) However, such bracing could be included, if desired, and could attach to the upper paired angle iron walkway supports in the vicinity of the 8 inch H-beams (or in the vicinity of the lower chord, if we decide to connect the cantilever bracket to the lower chord).

John mentions some cost savings for the cantilever design. An additional cost savings would be the narrower abutments required for this type of walkway support.

#### BRIDGE WALKWAY SURFACE: CONCRETE vs TIMBER

Dan may have said that he would recommend concrete to the Town Board, but my notes also indicate that the Town would be willing to accept timber as a walkway surface.

#### BRIDGE RAILINGS

John had indicated that the County would prefer to mount the 3x5 box beam bridge-rail directly to the trusses, rather than having separate support posts. I therefore took another look at the truss, with an eye toward mounting the bridge-railing to it. It looks like this won't be an easy task, given the spacing of the truss diagonals, the fact that the deck height will not be constant relative to the trusses, and the fact that the truss diagonals are of varying width (and therefore varying offset to the rail). Also, any impact to the bridge-rail, and therefore to the truss, would put the diagonals into bending. This could damage the diagonals, since these members were only designed to be tension members.

I also took a look at the downstream bridge. The bridge-rails on that bridge are mounted on separate posts, with a minimum of about 9 inches between the back of the bridge-rails and the trusses. (The narrowest point is where the inclined end posts pass behind the bridge-rails.) As I recall, this gap was included to protect the trusses. That is, if a car were to bump and displace the rail, the trusses would not be impacted. Mounting the rail directly to the trusses, as the County has proposed for the upstream bridge, would seem to run counter to this line of thinking, and possibly endanger the trusses.

My recommendation for the upstream bridge is to mount the bridge-rail on separate posts, as on the downstream bridge, rather than directly to the trusses. The distance between the trusses on the upstream bridge is a little over 16 ft. If we were to utilize the same 9 inch gap between the back of the 3x5 inch bridge-rail and the truss, the clear space between the faces of the bridge-rails would be about 13 ft 8 in ( $16 \text{ ft} - 9 \text{ in} - 9 \text{ in} - 5 \text{ in} - 5 \text{ in} = 13 \text{ ft } 8 \text{ in}$ ). Given that the lane width for the approaches will be 9 ft, I don't see that a clear width of 13 ft 8 in on the upstream bridge deck would pose any great hardship for drivers or create any safety concerns.

If we "need" 14 ft clear width between the bridge-rails, as was specified in the design for the downstream bridge, this could be accomplished by reducing the amount of space between the back of the 3x5 bridge-rails and the trusses from 9 in (as on the downstream bridge) to 7 in, thus gaining 2 inches of width on each side ( $13 \text{ ft } 8 \text{ in} + 2 \text{ in} + 2 \text{ in} = 14 \text{ ft clear width}$ ). I don't

think that reducing the amount of space between the back of the bridge-rails and the trusses from 9 to 7 inches would pose a major hazard to the trusses. In any case, the trusses would be protected from any possible damage far more than if the bridge-rails were mounted directly to them.

#### APPROACH SECTION: CONCRETE GUTTER

John states that it was agreed that a separate gutter section would not be included on either side of either bridge approach. I'm not sure what this means. By "gutter section" do you mean "shoulder"? My notes indicate that the Working Group had discussed the merits of block and concrete shoulders, with Dan indicating that the Town may not support block, and Bill mentioning that granite is now cheaper than concrete. I believe that the only thing the Working Group agreed on is that the edge treatment might be interrupted at Shipe's driveway, rather than running across it. In any case, I would argue strongly for including rough-textured shoulders on both sides of both approaches. These are an integral part of the FH Traffic Calming Plan, and help direct traffic away from the trusses and guiderails and curbs, so that vehicles are more centered on the bridge deck.

#### RETAINING WALLS

John indicates that a segmental block wall is acceptable at Fletcher's. I'm not sure that it is. The Working Group had also discussed a stone-faced wall, and the possibility of constructing a new wall outside of the existing one. I think the way we left this was that someone would talk to the Fletchers to see what their thinking was.

#### CALDWELL INTERSECTION ALIGNMENT

John states "Plan alignment is acceptable. It is basically as shown in TCP." I'm not sure what this means. While the alignment shown in the draft Design Report may be superficially similar to that in the Forest Home Traffic Calming Plan, the alignment shown in the Design Report does not address the safety concerns that were considered when developing the alignment shown in the Traffic Calming Plan. Specifically, the need to slow straight-through traffic flow, and to eliminate the east-bound fake-right-turn-left conflict with cars waiting at the stop sign. I remember discussing this, and believe that the Working Group decided to go with the alignment shown in the Traffic Calming Plan, not that in the draft Design Report.

#### CALDWELL INTERSECTION SUPERELEVATION

John states: "Superelevation would typically be provided if the turn to Forest Home Drive was the primary movement." However, the reason that the FH TC Plan calls for superelevation at this intersection is not to serve the primary movement, but rather to help speed-up turning movements while slowing-down straight-through movements, thus keeping all east-bound traffic flowing off the bridge at a fairly uniform rate. John indicates a few concerns about superelevation at this intersection, including the potential for straight-through drivers to lose control when going over the superelevation. As we discussed at the meeting, this would be no more hazardous than negotiating a speed hump. Also, as I recall, Fred reminded the group that this intersection used to have superelevation, without any major problems. John also raises the concern that providing superelevation may complicate drainage issues. However, the inside (Fletcher corner) of the intersection already drains toward Fletcher's, so while providing superelevation through the intersection might direct more water toward that corner, it would not be creating a new drainage issue.

#### LANE WIDTHS

I believe that the Working Group agreed to 9 ft lane widths throughout the project, on Caldwell Road as well as on both bridge approaches.

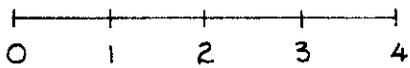
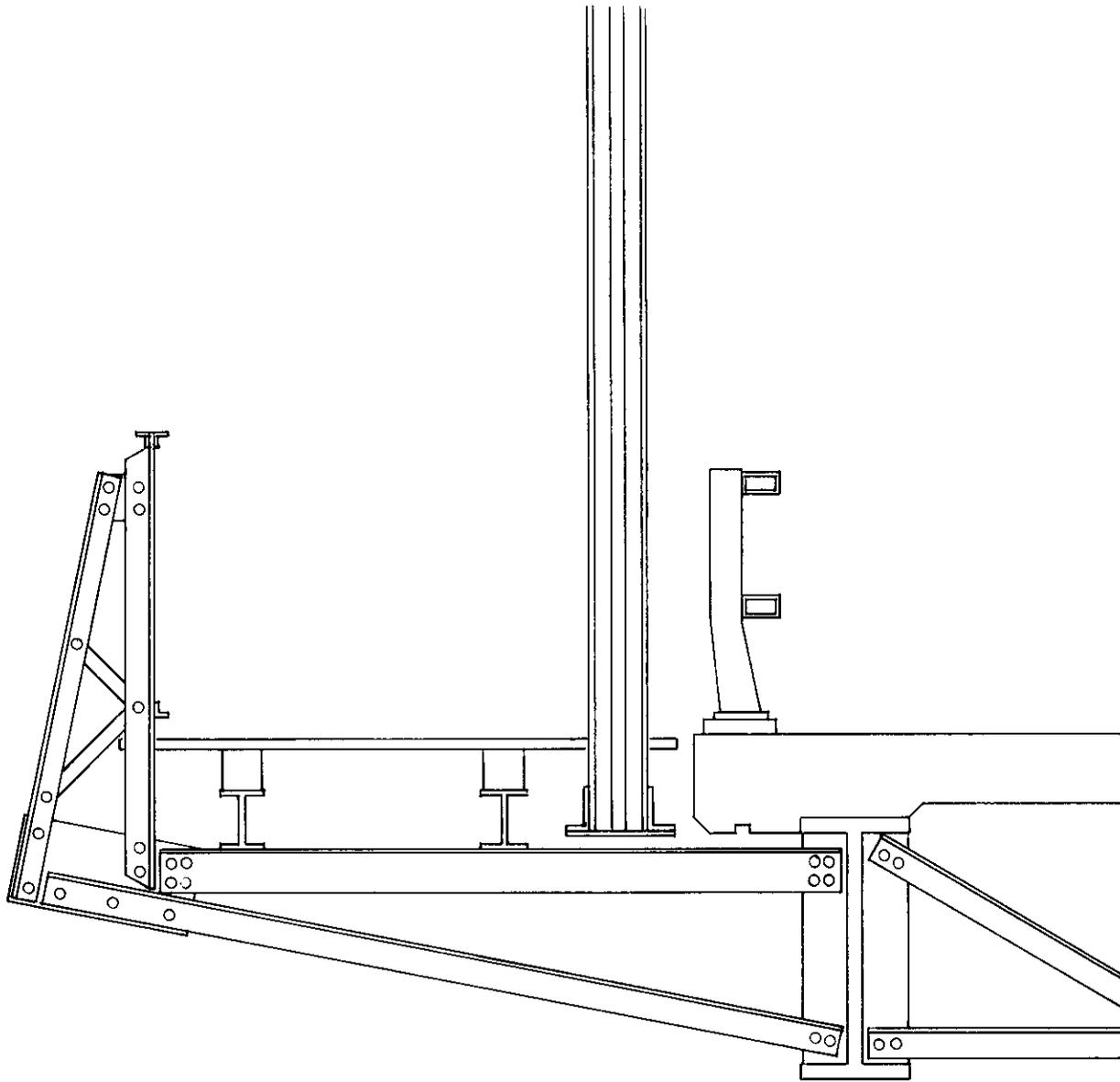
## DRAINAGE

John indicates that the FH TC Plan calls for inclined granite curbing on Caldwell Road. It does not. The TC Plan calls for granite block shoulders, with barrier curbs where necessary to control water flow or vehicle movements. On Caldwell Road, these curbs would be located in the vicinity of the community entrance feature. At the intersection, curbs would be located in the vicinity of the sewer tanks, for a short stretch at the Plantations corner of the intersection, and on Fletcher's corner up to the bridge. This is shown in Figure 1 that I sent out previously, and is spelled out in Appendix VIII of the FH TC Plan, on pp. 7 - 8 and 16.

Thanks for the continuing progress. See you all next week.

--Bruce

Possible Design  
for  
**Cantilevered Walkway Support**  
Forest Home Upstream Bridge



## **PUBLIC MEETING 2**

*PUBLIC MEETING*

**FOREST HOME UPSTREAM BRIDGE  
REHABILITATION**

Wednesday, February 4, at 7:00 p.m.

Forest Home Chapel (basement)

222 Forest Home Drive

You are invited to a public meeting regarding rehabilitation of the metal bridge between Caldwell and Warren Roads on Forest Home Drive. The meeting will be held in the basement of the Forest Home Chapel, 222 Forest Home Drive, Wednesday, February 4, from 7:00 to 9:00 PM.

This is a federally funded Transportation Enhancement Project sponsored by Tompkins County. Its primary objectives are to preserve the bridge and its contribution to its historic setting and to improve pedestrian facilities on the bridge approaches. A working group of individuals from the County and Town of Ithaca Public Works Departments, Cornell, and the Forest Home Improvement Association has discussed project priorities and design alternatives over the last several months. They have also considered construction of community traffic calming plan elements as part of the project.

At this second public meeting (the 1<sup>st</sup> meeting was last May), County staff will present the working group's preferred design alternatives and receive feedback from the neighborhood on some remaining design issues. Following the presentation, the public will be able to review conceptual plans one-on-one with project staff. This way the County hopes to ensure that community concerns are considered before the preferred design is finalized.

The project schedule calls for completing design this spring with construction also in 2009.

For more information, please contact John Lampman at Tompkins County Highway Division, 170 Bostwick Road, Ithaca, NY 14850, (607) 274-0307, or e-mail at "jlampman@tompkins-co.org".

**INFORMATION SHEET**  
**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**  
**Tompkins County**  
**February 4, 2009**

**PURPOSE OF THE MEETING**

The purpose of the meeting is to make the public aware of progress on the Upstream Forest Home Drive Bridge Rehabilitation project, to inform them about design recommendations to date, and to provide a forum for the community to participate in remaining design decisions.

**MEETING AGENDA**

Welcome & Introductions .....	7:00 to 7:10
Project Presentation .....	7:10 to 7:30
Question and Answer Period .....	7:30 to 8:00
Wrap Up / Informal Q&A.....	8:00 to 8:30

**PROJECT DESCRIPTION**

The Tompkins County Highway Division has been granted Federal aid to rehabilitate the truss bridge between Caldwell and Warren Roads on Forest Home Drive, the “upstream bridge”. As a transportation enhancement, the project will seek to maintain the appearance of the bridge including the one-lane width. The project will also improve pedestrian and bicycle facilities on the bridge approaches, including completing a walkway from Warren Road to the Plantations at Caldwell Road. The work will also coordinate with utility and pavement improvements proposed by the Town of Ithaca between the bridge and Warren Road. Construction will also implement elements of the Forest Home Traffic Calming Plan and other measures to enhance safety within the project limits.

**PROJECT SCHEDULE**

A preferred preliminary design alternative has been developed over the last few months. This design will be finalized with input from this the second public information meeting. The anticipated project schedule is as follows:

Final Design Complete .....	March 2009
Acquire Right of way, if needed .....	Spring 2009
Construction Bids Received.....	Summer 2009
Construction.....	Summer and Fall 2009

**CONTACT PERSONS**

If you have questions or comments concerning the project, please contact John Lampman at either (607) 274-0300, at the Tompkins County Highway Division, 170 Bostwick Road, Ithaca, or e-mail at [jlampman@tompkins-co.org](mailto:jlampman@tompkins-co.org).



**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**

**2nd Public Information Meeting - Wednesday, February 4, 2009**

NAME	ADDRESS	PHONE	E-MAIL
A. J. Fletcher	300 F-H Dr.	257-4359	afletcher@localnet.com
Doug Brittain	135 Warren Rd	257-0639	
BRUCE BRITTAIN	135 WARREN RD	257-0639	BSB62@twcn.com
Barb Chambers	237 Forest Home Dr	257-6409	bchambers@twcn.ny.us
Fred Nodden	1122 Danby Rd	277-8242	
Phil Walker	1105 Henshaw Rd	351-7620	pwalker8@twcn.ny.us
Bill Arms	235 Forest Home Dr	319-0939	
Fred Paul	112 Crest Lane	257-0721	
Caroline Arms	235 Forest Home Dr	319-0939	
Alphonse Pieper	139 Elmwood Rd	277-3450	alphonse@hotkith.com

**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**

**2nd Public Information Meeting - Wednesday, February 4, 2009**

NAME	ADDRESS	PHONE	E-MAIL
DAVID KUCKUK	229 Forest Home Dr.	257-3780	DKUCKUK@TWCN.NY.US
Nancy Trautmann	304 Forest Home Dr	257-4875	ntrautmann@hotmail.com

**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**

**2nd Public Information Meeting - Wednesday, February 4, 2009**

NAME	ADDRESS	PHONE	E-MAIL
Drew Nodden	19 Fairway DR.	257-0408	dnn2@cornell.edu
DAVE WALKER	215 N. TIOGA ST	2731747	dwalker@twcn.ny.us
Mike Kozluka - Leehr	124 CREST LN	257-2329	MAK11@cornell.edu

**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**  
**Public Information Input to Date**  
**February 4, 2009**

<b>Topic</b>	<b>Proposed Second Meeting</b>	<b>Proposed First Meeting</b>
Physical Separation between pedestrians & vehicles on bridge approaches	6" curb at walk from Chapel to Caldwell Rd.; no horizontal separation between curb & walk.	3' separation between curb & new walk; existing walk in current location
Legal crossing by fire trucks is a good thing	20-ton-posting min; Vertical clearance 14' min.	15-ton-posting or no-posting alternatives
Reduce height restriction to help keep trucks out	Vertical clearance 14.78 ft	Vertical clearance reduced: 14.28 ft
Preserve integrity of working truss, not fake	Not possible with 20-ton posting	To be studied further
Separate pedestrian bridge could allow maintenance of ped. traffic during construction	Maintain pedestrian traffic if cost allows	Maintain pedestrian traffic
Changes in surface water runoff with raised rd could cause problems	Runoff collection at SW corner of bridge; Work with Plantations on runoff treatment	Raising bridge deck possible
Steel grating is noisy and dangerous for bikes	Steel deck not an option	Steel or concrete deck options
Lighter alternative to concrete deck (wood)	Concrete surface; structure to be designed	Steel or concrete deck options
sloping bridge approaches - concern in winter	2.25 - 1.65 % approach slopes	2.25 - 1.65 % approach slopes
Keep bridge low to limit impact on neighboring properties and keep historically accurate	Effects on properties limited; keep historical deck-to-truss relationship intact	Raising bridge deck possible
Keep "curve" wall to preserve setting & historic nature	6" curb at walk from Chapel to Caldwell Rd.; +12" wall outside sidewalk	Not included
Review evidence of safety of "cobbled" gutter	Bicycle Specialist has concerns	To Be Determined
Vertical curb is dangerous for bikes	Included in Calming Plan; To Be Determined	To Be Determined
Rail – open it up	Included	Included
Tighten Caldwell/FHD intersection per FH Traffic Claming Plan: Relocate stop sign	Additional similarities added	Similar to Traffic Calming Plan
Speed table off bridge on Caldwell end	No included in Traffic Claming Plan	Not included
Accidents due to: 1) running stop at Caldwell and 2) cars increasing speed up Caldwell	Police agencies could not confirm accidents	To Be Determined
Increase sight time at wildflower driveway	Aligned more directly w/ Forest Home Dr.	Improved
Replace existing street lights to reduce environmental lighting	Not included. Discuss further w/ Town, public, & working group	Not included
Impact on Chambers' stairs	No impact: Move stop upstream of stairs	To Be Determined
Fence at Fletchers' corner: keep cars out of yard	Discuss w/ Town, public, & Fletchers	To Be Determined
Shipe's garden: limit impact:	moved walk away from it, restored wall	Significant Impact
Permeable surfaces on road/deck	Impermeable surfaces w/ runoff treatment	Impermeable surfaces
Like old abutments	New Concrete to simulate stone	To Be Determined
Place detour signs farther out – Alternate routes to choose - Detour on route 366	To Be Included in construction documents	To Be Determined

**UPSTREAM FOREST HOME DRIVE BRIDGE REHABILITATION PROJECT**  
**Tompkins County**  
**Second Public Information Meeting**  
**February 4, 2009**

Meeting also received input on Town project to rebuild road between bridge and Warren Road.

Recorded Comments -

- Move Forest Home Dr. toward EOP @ Plantations, i.e.: away from Fletchers' house.
- Moving sharp curve wall is not favored. (After extended discussion, the Town confirmed it will NOT place the sidewalk between the curve retaining wall and the road.)
  - It is a sidewalk safety issue.
  - Trucks would mount the curb and drive on the sidewalk.
  - Landscaping between chapel and curve serves traffic calming function and should not be moved behind the sidewalk.
- The joint between a concrete shoulder strip/gutter and the asphalt travel lanes is a bike safety issue.
- Carry shoulder treatment through Shipes' driveway so the driveway won't look like a public road.
- Continue shoulder treatment across the bridge deck.
- A guide rail at the southeast bridge quadrant channelizes pedestrians: should use an alternate barrier to people crossing the road.
- Consider safety over aesthetics. Applying this to sidewalk offset at Shipes garden, the minimum sidewalk – road offset may not be the best. Maybe split the difference between no offset and 3 feet that was shown previously.
- There is too much street lighting now.
- Is an all-way stop possible at the Caldwell Road intersection?

- Q: Friendly design for bats/native birds?
- Q: Wildlife corridors/passages (turtles, deer, raccoons, foxes)?
- Q: Shipe Garden: Involve community in moving?
- Use of natural erratics (large stones) to define boundary
- Police park in wildflower driveway to catch speeders on FHDr east
- Toll Booth  $25¢ \times 5000 \text{ cars/day} = \$1250/\text{day} = \$425\text{K}/\text{year}$
- Add sign: - E-Z Pass

**From:** Bruce Brittain [bruceb2@mindspring.com]

**Sent:** Monday, February 09, 2009 10:34 PM

**To:** John Lampman

**Cc:** Hal Martin; Tanya Husick; Will Palmquist; Alphonse Pieper; DWalker@town.ithaca.ny.us; Fred Noteboom; sara.anne.johnson@gmail.com; William Sczesny

**Subject:** More Thoughts on Bridge

(John: I have sent this to the typical list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you. See you on Thursday.)

Hi All--

We had a useful Public Meeting last week. Here are some additional thoughts that I have relative to the bridge:

#### BRIDGE RAILS

As I indicated in a previous e-mail, there are several advantages to having the bridge rails mount to the deck, rather than to the trusses. Looking back through the material submitted with John's (successful) funding application, I have found another reason to mount the bridge rails to the deck: the funding request specifically states that the bridge rail would not be mounted to the trusses. The Transportation Enhancement Program Application, Attachment C, Project Description, states on the bottom of page 1:

"The 1975-era guide rail would be removed and new bridge and approach rail would be installed inside and separate from the trusses, thereby protecting their integrity in the event of accidents."

The photographs that accompanied the Project Description in Attachment C also alluded to the separate support for the bridge railings. Specifically, on p. 1 of the photographs, the Description that accompanies Picture #3 states in part:

"Also note bridge rail welded to trusses. This will be replaced by independently supported rail that blocks less of the scenic view of the Unique Natural Areas up- and downstream of the bridge."

So it sounds as if this issue may have already been resolved.

#### HUMP-BACKED WALKWAY

I was pleased that the plan that John brought to last week's Public Meeting finally included a proposal for a cantilevered walkway. However, the proposed design indicated that the walkway deck would be hump-backed to follow the hump-back of the driving deck. I have serious doubts about the advisability of this. First, it appears that each one of the cantilever brackets would be custom designed for its location, to account for the varying section-height of the main deck girders. Secondly, in order for the ends of the (hump-backed) walkway girders to sit flat on the cantilever brackets, the brackets would have to be mounted perpendicular to the top flange of

the girder, rather than vertically. This could be another construction headache, and would mean that the walkway railing posts would radiate out fan-like, instead of being vertical. In any case, this would make walkway railing construction and installation awkward. Finally, the appearance of the bridge would be altered, with the hump-backed walkway and walkway railing jarring with the rectilinear lines of the truss. I think it would be far better to instead keep the walkway level, with the cantilever brackets indexed off of the bottom flange of the main bridge girders. This would be a simpler, cheaper, and more historically appropriate design. I don't see a major problem with having the (hump-backed) main bridge deck gradually rise relative to the deck of the walkway, then drop back down level with it at the far end of the bridge.

#### HUMP-BACKED DRIVING DECK

I am also having second thoughts about the hump-backed driving deck. It seems that this concept may be introducing as many problems as it is solving. Problems that have already been identified include the issues of deck-height vs truss-height, and driving-deck-height vs walkway-deck-height. In addition, built-up hump-backed girders are likely to cost more, will likely introduce delays in component procurement/delivery, and the welds are subject to deterioration. Rather than hump-backed girders, it might make sense to go back and reconsider using constant-height rolled girders. If four constant-height girders don't have enough strength without being overly tall, then a fifth one could be added. Or the flange thicknesses could be beefed up, either full length, or in mid-span. Although I would prefer not to do it, we could also increase the web section-height of the girders. This would translate to a higher deck height, if we wanted to keep the lower flange at the same elevation, in order to allow flood waters to pass under the bridge. A higher deck height would result in slightly steeper approaches to the bridge, and/or the taper could be extended further out than originally envisioned. Whatever approach is taken, using off-the-shelf rolled girders would provide a cleaner, more historic appearance than built-up hump-backed girders, and would likely reduce costs and construction delays while increasing the longevity of the structure.

Thank you all for the continued progress. See you on Thursday.

--Bruce

## **WORKING GROUP MEETING 5**

## Working Group Meeting Summary

### FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450 UPSTREAM BRIDGE REHABILITATION

February 12, 2009; 2:15 P.M.

Tompkins County Highway Division Conference Room

#### Present:

Bruce Brittain, Forest Home  
Alphonse Pieper, Historic Ithaca  
Dan Walker, Town of Ithaca

Fred Noteboom, Town of Ithaca  
William Sczesny, Tompkins County Highway  
John Lampman, Tompkins County Highway

John distributed a list of project decisions that needed to be made now and in the future, and decisions that were already made. The discussion primarily centered on the decisions needed in the short-term.

1. Maintain pedestrian crossing throughout construction? A consensus was reached that it was not worth \$60-70,000 to maintain pedestrian traffic. However, it was agreed that pedestrian traffic should be maintained as long as possible.
2. Pedestrian bridge deck - timber or concrete? The consensus was to advance the design with a timber deck on the pedestrian bridge.
3. Pedestrian bridge type - separate or cantilever? The cantilevered option was selected because of it is relevant to Forest Home's period of historical significance. Initial construction, design, and maintenance costs will be similar or higher than the separate bridge option. Possible maintenance cost reductions could result if galvanized supports are used. The water and sewer mains will be supported under the vehicle bridge deck.

A means to control horizontal movement of the truss bottom chords that isolates it from deflection on the bridge might be possible to include in the cantilever design.

4. Pedestrian bridge profile - flat or matching profile of vehicle bridge? The pedestrian bridge will be designed with a flat deck instead of following the line of the vehicle bridge.

While on this subject, the need for a 'hump-backed' vehicle bridge was revisited. The beam recommendation is limited by hydraulic and property impacts concerns. John reported that heavy rolled beams would probably not be more readily available than those specified would. Erdman-Anthony looked at many possibilities and the hump-backed option is the optimal solution given the constraints.

Using weathering steel for the main girders will be considered.

5. Pedestrian bridge railing - type; one side or both sides? The pedestrian bridge will be designed so that hand railing is only needed on the outside edge. No hand railing will be provided between the pedestrian and vehicle bridges.

Problems with mounting bridge rail on the trusses were discussed. Dan recommended mounting posts to the deck fascias instead of on top of the deck/curb.

6. Walkway surface - asphalt or stone dust? Within the bridge project limits, the walkway will have a concrete surface. This decision excludes, at this time, the curved walk

between the crosswalks on Caldwell Road and Forest Home Drive. This section will be reconsidered once Cornell Plantations provides a design for its trail connection.

7. Walkway width – 4 or 5 feet? Typically, the walkway will be 5 feet wide within the bridge project limits. It will transition to the width of the existing walk west of Shipes' driveway and may be four feet wide along Shipes' garden if property impact mitigation is required.
8. Guide Rail between curb and walkway - yes or no (if yes, length?) A rail transition to median barrier may not be possible and would not entirely remove the hazard to pedestrians from posts. The group understood that extending the rail off the upstream ends of the bridge is not required, but would prefer more protection for the ends of the truss and pedestrians than just the curb. If possible, the group would like rail extended for a short length beyond the truss on each end. Pavers will surface gaps between the curb and the walkway.
9. Shoulder strip material - concrete, colored/imprinted asphalt, colored surface treatment, granite, other? Pavement grooving on the bridge will not extend to within 18" of the curbs, leaving the appearance of a shoulder strip extending along both sides of the deck. No final decision was made about the shoulder strip composition on the approaches. Suggestions included colored-synthetic asphalt on the shoulders, similar to what was used in McLean and N. Triphammer Road, and surface treatment on the lanes and not the shoulders.
10. Bridge approach alignment to Caldwell intersection - change to 'exactly' match Traffic Calming Plan? ("fake-right left-turn") The group recognized that there could be a safety advantage in using the centerline alignment shown in Bruce's sketch and agreed to change the plan accordingly. Superelevating the curve was not discussed.
11. Other discussion:
  - a. Lane Width. Lane widths will be 9' since recent input from TCAT is that buses will not be routed over the bridge.
  - b. Lighting. Bruce did not know if the FHIA made any decisions about upgrading approach lighting since the informal poll was taken at the Public Meeting.
  - c. Retaining Wall Designs and Offsets. John plans to meet with the Fletchers and Suzanne Shipe to review wall options and impact at their properties.
  - d. Pedestrian Obstruction to replace Plantation guide rail. This suggestion from the Public Meeting is considered a good idea. It will be discussed at a future meeting.
12. Next Work Group Meeting. Tuesday, March 3 at the Forest Home Chapel at 1:00 PM.

Respectfully submitted,  
John R. Lampman, P.E.

xc: Attendees  
Hal Martin, Cornell Plantations  
Will Palmquist and Tanya Husick, Cornell Transportation  
Mark Laistner, Erdman Anthony  
James Warren, SHPO

**From:** Bruce Brittain [bruceb2@mindspring.com]

**Sent:** Thursday, February 26, 2009 9:39 PM

**To:** John Lampman

**Cc:** Hal Martin; Tanya Husick; Will Palmquist; Alphonse Pieper; DWalker@town.ithaca.ny.us; Fred Noteboom; sara.anne.johnson@gmail.com; William Sczesny

**Subject:** Re: Forest Home Bridge Work Group Mtg #5 Summary

**Attachments:** WRK\_GP5\_smry.doc; ATT1913658.htm

(John: I have sent this to the typical list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you. See you next week.)

Hi All--

Thanks once again to John for the meeting summary. To which I would like to add the following comments:

3. It would be nice if the design of the cantilever walkway support brackets could be based on the original 1926 design. The Draft Design Report dated October, 2008 references "Record plans for the 1974 rehabilitation" (p. II-9), and states that they "indicate that the existing walkway was supported by cantilever beams." John, do you have a copy of these plans, and do they show the original cantilever bracket design? If so, could you please make a copy of this cantilever bracket design available? Thank you.

4. The downstream FH bridge does indeed appear to be supported by self-weathering steel girders.

6. It would probably make more sense to make the transition from concrete sidewalk to stone dust walkway at the Shipe's driveway. That is, to extend the existing stone dust surface east to the western edge of Shipe's driveway, then have the concrete sidewalk begin at the eastern edge of the driveway and extend to the bridge. This would eliminate what could be an awkward concrete-to-stone dust transition between Shipe's driveway and John Foote's barn. The Town has traditionally only been maintaining the walkway back to the Shipe's driveway, so this would give them the hard surface they are looking for in that area.

9. The deck of the downstream FH bridge appears to just have a broomed surface, with no grooves cut into it.

10. I gave a large scale (1 in = 10 ft) drawing of the FH TC Plan's recommended alignment of the Caldwell/FHD intersection to Mark Laistner at the end of the first Public Meeting last May, so he should have the information that he needs.

Thanks to all.

--Bruce

Working Group members,

Thank you for a very productive meeting last week. A meeting summary is attached.

Our next meeting is scheduled for 1:00 on March 3rd at the Forest Home Chapel. Let me know if that becomes a problem for anyone.

John

## **WORKING GROUP MEETING 6**

## Working Group Meeting #6 – Meeting Summary

### FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450 UPSTREAM BRIDGE REHABILITATION

March 3, 2009; 1:00 P.M.  
Forest Home Chapel

Present:

Bruce Brittain, Forest Home  
Alphonse Pieper, Historic Ithaca  
Dan Walker, Town of Ithaca  
Tanya Husick, Cornell Transportation

Fred Noteboom, Town of Ithaca  
William Sczesny, Tompkins County Highway  
John Lampman, Tompkins County Highway

1. Shoulder strip material on approaches. John relayed e-mailed comments that FHIA President Michael Bend thinks “what most in the community support is visual narrowing by having some sort of contrasting edge treatment, but something that bicyclists could ride on just as easily as the main road surface” and “ ... there will be strong objections from many FH'ers if the shoulder is textured.” A primary concern is avoiding joints that could trap a bicycle tire. There was agreement that minimal texture such as used for crosswalks on Triphammer Road near the malls would be acceptable. The Town will look into other synthetic asphalt alternatives.
2. Walkway cantilever bracket design. Details of the current and pre-1974 walkway supports were reviewed (attached). The design discussed at the public meeting, similar to the existing downstream bridge, was preferable to both.
3. Existing abutment removal. The County recommends replacing the existing abutments. There is some deterioration, but their condition is largely unknown and they expect the worst. This is the optimal time to replace them since the bridge will be removed. Contractor prices will likely provide the best value for replacement versus rehab. New abutments in front of the old are not possible due to hydraulic capacity. The consensus was to advance the project with form-lined new concrete abutments. The County will consider using the old stones for less critical project retaining walls.
4. Other Bridge Features. Using weathering steel for the main girders has been proposed to SHPO. Galvanized and painted components are proposed for walkway supports and railings.
5. Pedestrian Lighting. Michael Bend had told John that since pedestrian “lighting is a part of the overall [Forest Home Traffic Calming Plan], FHIA would like the County and Town to include it in the project if that is feasible. However, if the lights are included in the project, the community will need an opportunity to review, discuss, and negotiate with the Town regarding any specific designs and funding arrangements.” The County will now plan on including such lighting, perhaps bollard-type or up to 8-10 feet high, and probably two units along the walkway on each approach to the bridge.
6. Walkway surface transition at Shipe’s driveway. The concrete walkway surface will terminate at the east edge of Shipe’s driveway. A walkway per-se will not be built within the paved driveway. The walkway west of the driveway will be stone dust surfaced and be the width of the existing walk to the west.

7. Lane widths. Total curb-to-curb width on approaches will be 21 feet, of which 1.5 feet on each side will be shoulder treatment.
8. Superelevation at Caldwell Intersection. The curve on Forest Home Drive at Caldwell Road will not be superelevated.

(The Working Group did not discuss items 9 -12 since no one from plantations was at the meeting. However, John discussed them with Hal Martin, Todd Bittner, and Irene Lekstutis after the meeting.)

9. Plantations walk landing at Caldwell intersection – The County expects the area between the crosswalks will be raised for drainage and safety concerns. The County will look into raising it enough to help mitigate the grade into the Arboretum. The area between the crosswalks will have a stone dust surface, which can more easily be altered to match future Arboretum trail extension.
10. Drainage/ Runoff treatment at Plantations corner – Plantations requested that a stone-lined swale convey bridge runoff from the road to a below-ground filtration chamber north of the wildflower garden parking lot. (Examples are available from Bob Chang at Cornell PDC.) The system would be sized and positioned to handle runoff from that parking lot, also. Cornell would re-grade lot in the future. System overflow would be piped across the driveway to an existing catch basin.
11. Border delineation along Plantations corner – not discussed.
12. Wildflower / Filtration Plant Driveways – Entrances will not be combined. Granite curb was requested between driveways to better define driving areas. Plantations also requested their typical inclined curb once it wraps around onto the driveways.
13. Next Work Group Meeting. Tuesday, May 5, at 1:00 PM. Location to be determined.

Respectfully submitted,  
John R. Lampman, P.E.

xc: Attendees  
Hal Martin, Todd Bittner, & Irene Lekstutis, Cornell Plantations  
Will Palmquist, Cornell Transportation  
Mark Laistner, Erdman Anthony  
James Warren, SHPO

**From:** Bruce Brittain [bruceb2@mindspring.com]

**Sent:** Sunday, March 29, 2009 11:02 PM

**To:** John Lampman

**Cc:** Hal Martin; Tanya Husick; Will Palmquist; Alphonse Pieper; William Sczesny; DWalker@town.ithaca.ny.us; fnoteboom@town.ithaca.ny.us; Irene Marie Lekstutis; Todd Bittner

**Subject:** Re: Forest Home Bridge Work Group Meeting Summary

(John: I have sent this to the local list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you.)

Hi All--

Thanks again to John for a detailed meeting summary. To which I would like to add the following comments:

2. Walkway cantilever bracket design. I thought that we had decided to go with a design that was similar to my proposed cantilever bracket design, rather than the one that had been displayed at the second public meeting. In any case, it would be nice if the above-deck walkway components were similar to those originally on this and the downstream bridge. I can take some measurements of existing original components (railing, posts, etc) and share them with the group.

3. Existing abutment removal. I thought we had agreed with Dan's suggestion that we plan to replace both abutments, but if, upon further inspection, one or the other existing stone abutment looks good, then it can be retained, and the clause calling for its replacement can be deleted from the contract.

9 - 11. My notes indicate that the Working Group did indeed discuss agenda items 9, 11 and 12, although we may not have felt that we could finalize them without input from the Plantations.

11. Obstruction to replace guiderail along Plantations. My notes indicate that we discussed the possibility that pedestrians might wander out into the road if the existing box-beam guiderail that extends from the bridge to the sewer tanks were removed. Possible solutions included strategic plantings and a split-rail fence like the one that used to be at this location. In the end, as I recall, we decided that the presence of sidewalks and crosswalks should encourage pedestrians to use the crosswalks rather than to just wander around in the road, and that if, once the intersection is operational, a problem is found to exist, then it could be addressed at that time.

Other. My notes indicate that we also discussed the possibility of using a different paving material for the crosswalks. If so, the material would have to be different from both the pavement and the shoulder. My notes indicate that, in the end, we decided that the crosswalks would be done in paint for now. If FH would like all of its crosswalks to be similar, then synthetic asphalt crosswalks could be installed all at once at some later date, as part of another project.

13. Next meeting. I thought we had said that we would hold the May meeting at the FHC. We don't have to, but it is available, and it certainly is a convenient location if a site visit to the bridge were deemed necessary or desirable.

My notes also indicate that John was going to forward us a tentative timeline for the rest of this project. The dates (for preliminary design, final design, out-to-bid, etc) that were mentioned at the meeting got all jumbled up in my head, and a linear time-line would certainly help me to better understand the next few steps.

If the project really is postponed until next year, would this be an opportunity to try again to coordinate the reconstruction of the S-curve with the reconstruction of the Warren Road hill? Rebuilding two legs of the Warren/FHD intersection at the same time might be a distinct advantage.

Thanks to all. It seems like we are making good progress and homing in on an acceptable and well thought through design.

--Bruce

On Mar 10, 2009, at 8:11 AM, John Lampman wrote:

Colleagues:

Here is my summary of our last meeting. Please let me know of any errors or omissions.

John  
<WRK\_GP6\_smry.doc>  
<Old Walks.pdf>

**From:** Bruce Brittain [bruceb2@mindspring.com]  
**Sent:** Thursday, April 16, 2009 8:44 PM  
**To:** John Lampman  
**Cc:** Hal Martin; Tanya Husick; Will Palmquist; Alphonse Pieper; William Sczesny; DWalker@town.ithaca.ny.us; Fred Noteboom  
**Subject:** Pedestrian Hand Rail and Hand Rail Posts for USB

**Attachments:** IMG\_1989.jpg; ATT1913140.htm; IMG\_1978.jpg; ATT1913141.htm; DSB.Handrail.Dimensions.pdf; ATT1913142.htm  
(John: I have sent this to the typical list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you very much.)

Hi All--

As promised, I have been giving more thought to the above-deck components of the handrail for the pedestrian walkway that is to be fabricated for the upstream Forest Home bridge. It would be nice if these handrail components (lattice panels and support posts) could be as historically accurate as possible, matching the design of those that were originally installed on this bridge in 1926, during Forest Home's period of significance. Although the originals are now long gone, it is presumed that the design matched that of the handrail on the downstream Forest Home bridge, since the two walkways were installed at the same time by the same contractor. Enough of the original downstream bridge handrail remains that I was able to take dimensions from it.

Attached please find dimensioned drawings of the original handrail support posts and lattice-work panels for the downstream Forest Home bridge. Dimensions have been taken from original posts (of which I managed to salvage a few when the DSB was reconstructed several years ago) and original lattice panels (many of which were reinstalled as part of the DSB reconstruction project). Dimensions for the top rail connector plates are somewhat speculative, given that no original plates are known to exist. The dimensions in the drawings are based on an existing, similar handrail design used on the Albany Street bridge over Six Mile Creek, and on American Bridge Company standards at the time of the walkway's construction, as indicated in a 1931 Carnegie Steel Company handbook that I have ("Pocket Companion, Abridged Edition").

Given that the below-deck walkway supports will be cantilevered off of the main bridge girders, the spacing of these supports does not have to be influenced by the design of the trusses, but could be any spacing that is convenient. However, for historic and aesthetic reasons, it would make sense to tie the spacing of the above-deck handrail components in with the rhythm of the trusses. Specifically, to align the handrail support posts with the truss panel points, which are approximately 16 ft 6 in apart. Some current lattice handrail panels on the downstream bridge are over 20 ft long, and seem rigid enough, so sixteen and a half feet should not be a problem. Note also that the below-deck cantilever walkway supports could be more closely spaced, if necessary to provide sufficient strength to support the walkway load.

It would also be nice to have cast iron end-posts for the handrail which would match those of the downstream bridge. (The upstream bridge presumably once had these, too.) I found three currently unused matching posts in the City of Ithaca, at the site of the former Monroe Street /

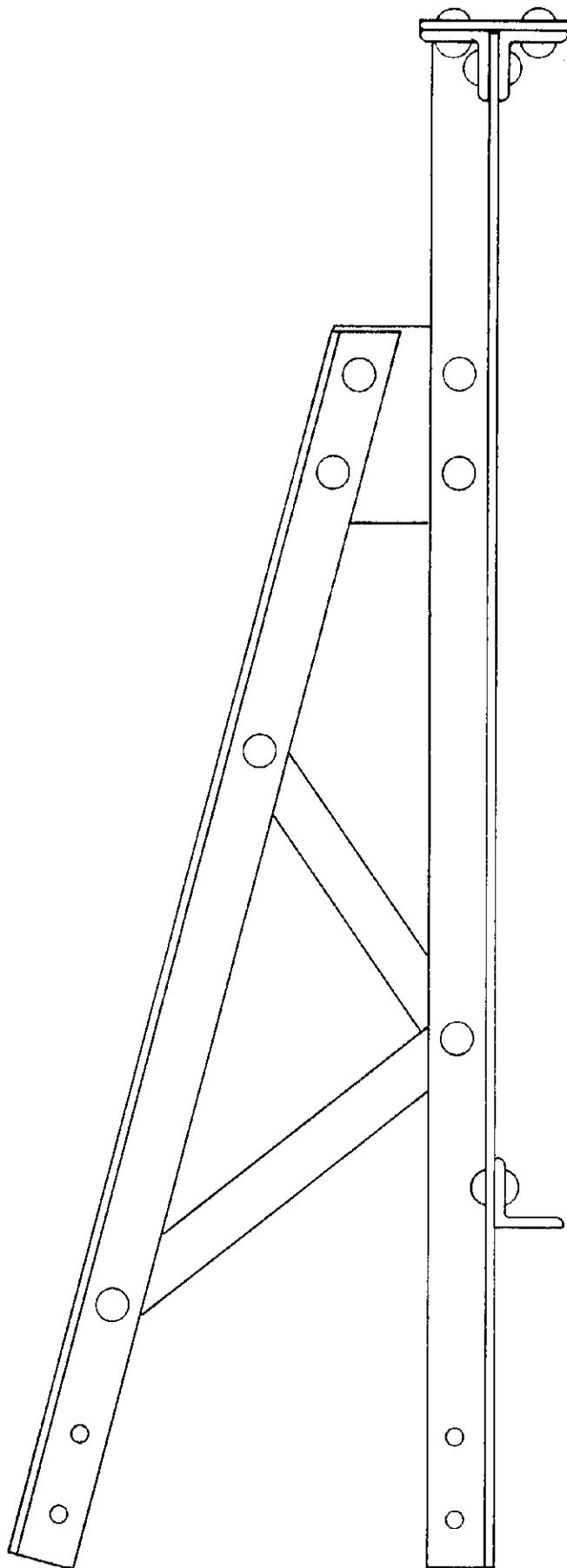
Marshal Street bridge over Cascadilla Creek (BIN 2210510), adjacent to Thompson Park. (See attached photos.) John, who in the City should we talk to to see if these posts might be available for repurposing for use on the upstream Forest Home bridge?

Thank you very much. If you need more information or further dimensions, please let me know.

--Bruce

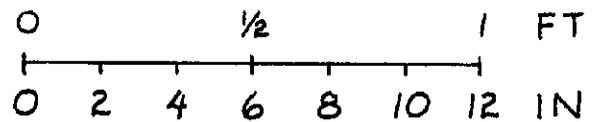
# Original Pedestrian Handrail

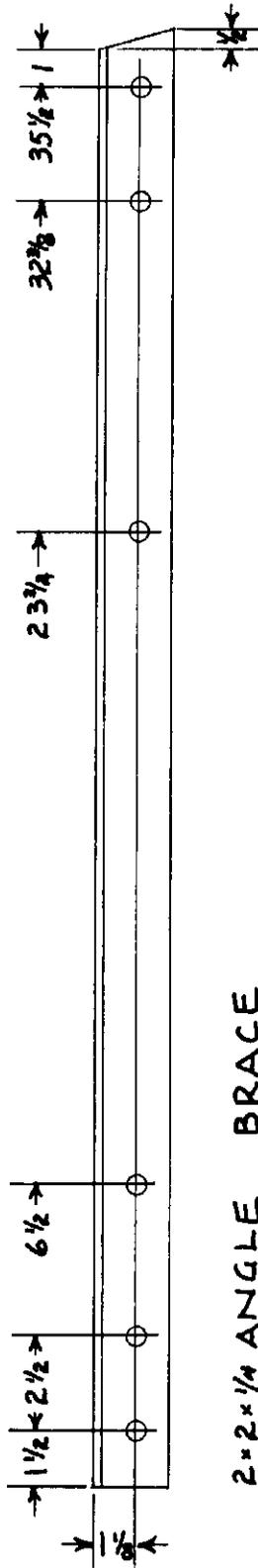
## Downstream Forest Home Bridge



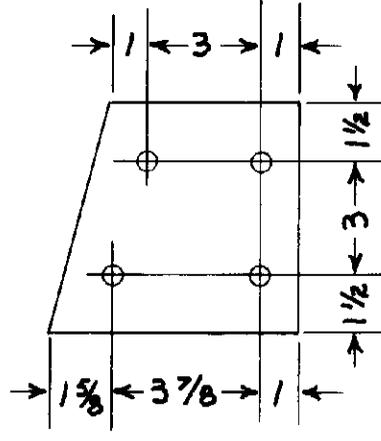
**Notes:**

- Post rivets: 1/2 in diam
- Lattice-work rivets: 3/8 in diam
- Overall length of lattice panel top and bottom rails: 1 inch less than center-to-center spacing of handrail support posts
- Dimensions for top rail connector plate determined from similar railing construction, and from standard industry practice at the time

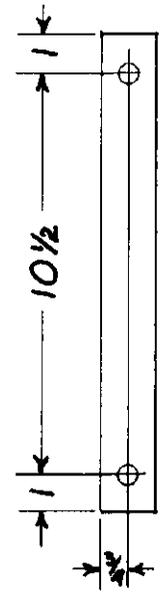




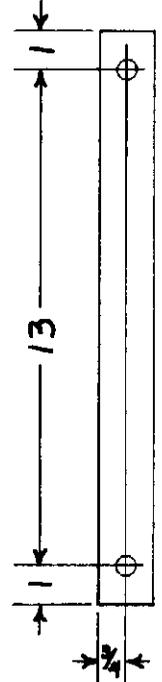
2x2x1/4 ANGLE BRACE



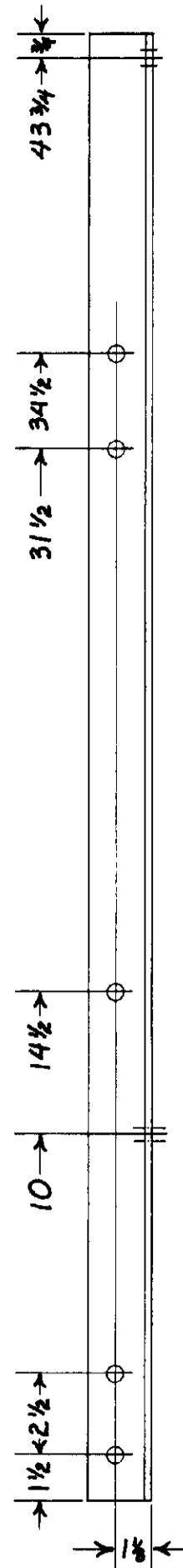
6x1/4 CONNECTOR



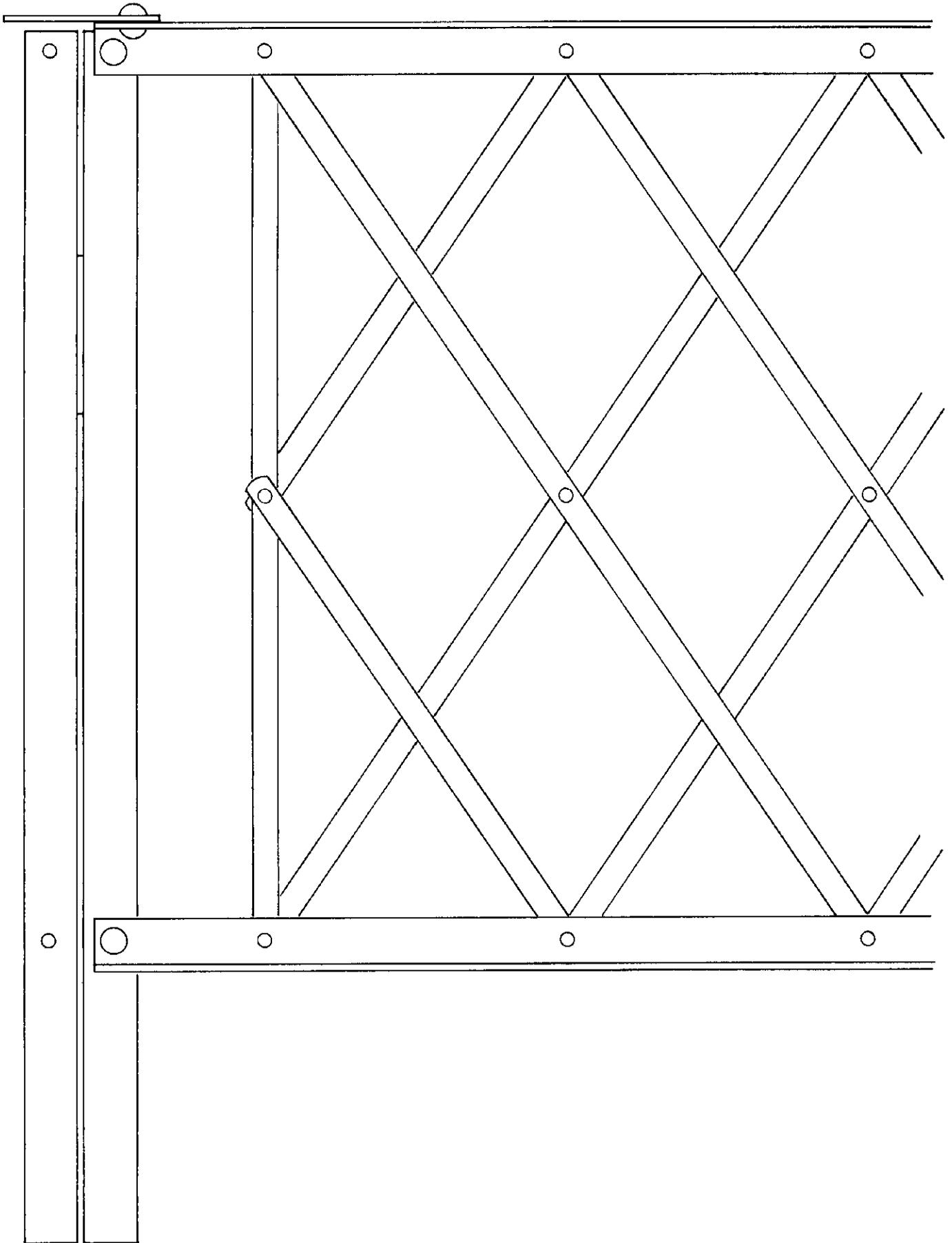
1 1/2 x 3/16 UPPER DIAG.

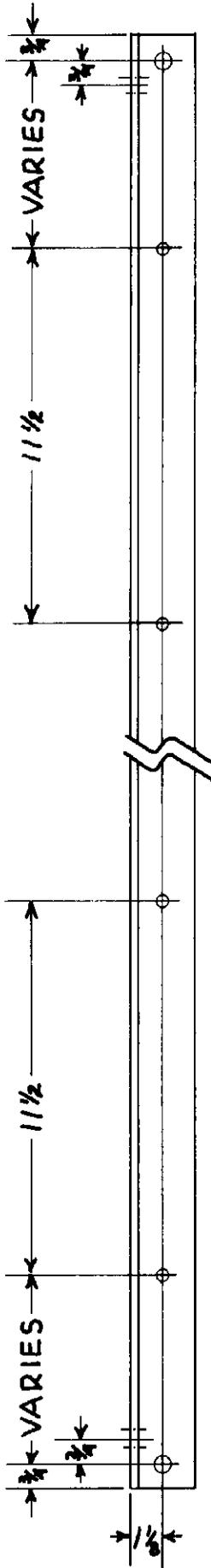


1 1/2 x 3/16 LOWER DIAGONAL

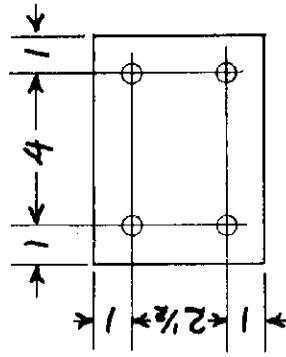


2x2x1/4 ANGLES POST

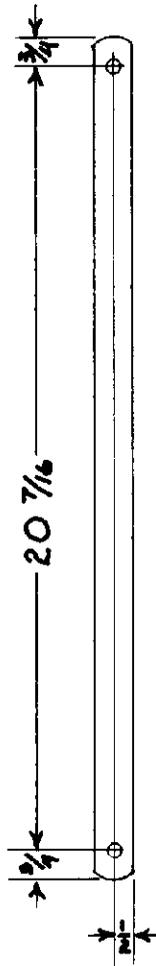




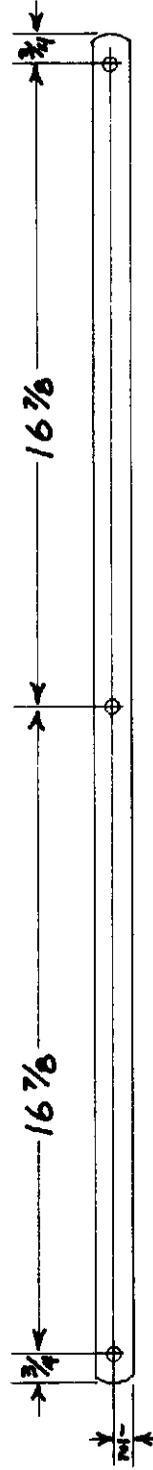
2x2 1/4 ANGLE TWO FOR TOP RAIL, ONE FOR BOTTOM RAIL



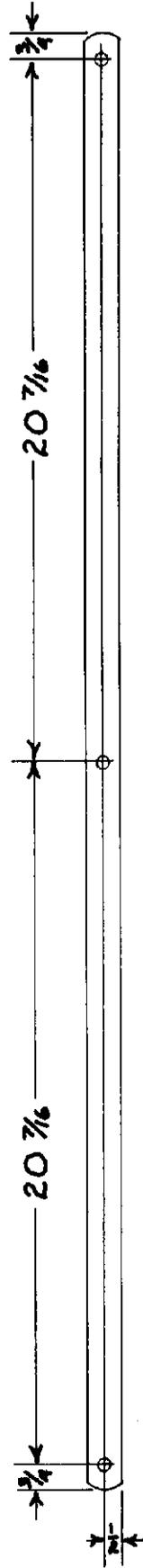
4 1/2 x 1/4 TOP RAIL CONNECTOR



1 x 3/16 SHORT DIAG. FOUR PER PANEL



1 x 3/16 VERTICAL TWO PER PANEL



1 x 3/16 FULL DIAGONAL 30 PER 16'6" PANEL



# **WORKING GROUP MEETING 7**

## Working Group Meeting #7 – Meeting Summary

### FOREST HOME DRIVE OVER FALL CREEK - BIN 3047450 UPSTREAM BRIDGE REHABILITATION

September 15, 2009; 1:00 P.M.  
Forest Home Chapel

Present:

Bruce Brittain, Forest Home  
Gene Redman, Town of Ithaca  
Dan Walker, Town of Ithaca

William Sczesny, Tompkins County Highway  
John Lampman, Tompkins County Highway

The goal of this meeting was to finalize review of the draft Final Design Report. Comments on the Report prepared by Bruce Brittain (attached) were distributed.

1. Coordination with Traffic Calming Project Design. The bridge project limit on Caldwell Road is approximately 80 feet from the pavement to be laid as part of the Town's Phase 1 Traffic Calming project. There is no need to include this section in the bridge project, but the Town may be interested in that section of road being paved to complete proposed traffic calming enhancements on Caldwell Road when other paving is performed.
2. Setback between the curb and the walkway at the Shippe yard. The Design Report shows a 1'6" width of pavers between the curb and the walkway by Shippe's garden. The following changes will be made there and on the other end of the bridge:
  - No walkway will be constructed west of the Shippe's driveway as part of the bridge project. The Town will build that portion of walk during its road reconstruction project. (Also, as stated in meeting #6 minutes, "A walkway per-se will not be built within the paved driveway.")
  - No pavers will be used anywhere on the bridge project.
  - The walkway will be 5 feet wide at the west edge of the Shippe's driveway and be immediately adjacent to the back of curb. This will stay the case at least through station 9+10. It should begin to transition wider, to account for the width of the truss, somewhere around that point.
  - The walkway will be 5 feet wide from the bridge to approx. station 0+94 (see Railings below), widen to 6 feet just east of the end of that rail, and transition back to 5 feet soon to the east. East of where it switches to 6 feet wide it will be immediately adjacent to the back of curb.
3. Railings. The following decisions were made.
  - The approach guide rail on the Chambers' (southwest) corner should extend to the Chambers' steps.
  - A 2-rail transition will not be used on either approach. Instead 'tuning fork' transitions as at the downstream bridge will be used.
  - Approach rail should extend from the northeast end of the bridge rail (Fletcher corner). The rail should terminate at the kink in the curb near station 0+94. The area around this rail should be stone dust surfaced.

- The lattice, pedestrian bridge rail should terminate at the west end of the retaining wall along Shipes' garden and around the utility pole (#38) near the east end of the bridge. A split rail fence will extend east from there along the top of the Fletchers' wall.
  - Split rail fence should extend east from the end of the lattice to the Caldwell Road intersection. The split rail should turn the corner on FHm Drive, as it does now.
4. Right of Way. Bruce was concerned that the great width of ROW will give the impression that the County will someday build a two-lane bridge. The descriptions in the deeds should indicate why these widths are needed.
  5. Freeboard. No changes to the recommended freeboard will be made.
  6. Pedestrian Lighting. The community will get back to the County within 2 months if they would like to include lighting in the project. If they do not, lighting will not be included.
  7. Other Bridge and Roadway Features.
    - Curb 'kinks' should be angular at the yield lines. Elsewhere, curb lines should be rounded through turns.
    - The centerline at the end of reconstructed Caldwell Road does not align with the existing centerline.
    - The pedestrian deck should not be pressure-treated timber. Locust or other durable species was suggested.
    - There may be an error in the profile crown transition diagram.
    - John has spoken to the Fletchers about the design of the retaining wall at their property. They prefer a laid stone wall, but were open to some segmental block wall designs.
    - The bridge girders are all 'typical'. There had been discussion that the upstream fascia girder might be beefier because of the walkway cantilever.
    - Will the utilities fit above the bottom flanges at the abutments since the girders will be shorter there? The Town will further review the idea of having the sewer next to the water under the bridge.
  8. Remaining process to advance the project to construction. The "Final Design Report" is not the end of final design. Its approval marks the beginning of detailed design. Many of the Working Group comments are appropriate for this detailed design phase the project will be entering. John said that typically the report text and drawings are not revised as the Report is developed and a preferred alternative is selected. For example, it is acceptable for this Report to say an alternative "will be investigated" even though the investigation is past. Conclusions from the study process are added as a preferred alternative executive summary at the beginning of the document. Drawing details are also fleshed-out in the final design phase. Final Design Report approval will also bring authorization for right of way acquisition. The sponsor is not permitted to initiate right of way negotiations until this authorization is received.
  9. Schedule. The following project schedule was discussed.
    - DOT, agency, & local comments incorporated in FDR
    - 11/30/09 FDR approved by County, State, & FHWA
    - 3/31/2010 Final Design Complete

- 5/15/2010 Right of Way Acquisition Complete
- 6/15/2010 Project Advertised for Bids
- 7/15/2010 Award Authorized
- 11/30/2010 Construction completed

The construction contract award date (7/15/10) is late in the year and all hoped that work could start earlier. The County will work to move it up. John said that Erdman-Anthony could finish design in 2-3 months, but March completion is shown due to the slack time resulting from the extended right of way acquisition period. The Town is concerned that the work will not be completed in 2010, and that they should budget for another capital project instead. John reported that Erdman-Anthony now believes lead-time for delivery of girders will not be a significant delay, taking only 2-3 months instead of 10 months projected earlier. The County will pursue the idea of purchasing the girders before hiring a contractor is authorized.

10. Next Work Group Meeting. Date and location to be determined.

Respectfully submitted,  
John R. Lampman, P.E.

Attachment

xc: Attendees  
Alphonse Pieper, Historic Ithaca  
Tanya Husick, Cornell Transportation  
Hal Martin, Cornell Plantations  
Mark Laistner, Erdman Anthony  
James Warren, SHPO

## Tiphaine A. Williams

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**From:** John Lampman [jlampman@tompkins-co.org]  
**Sent:** Wednesday, November 04, 2009 8:48 AM  
**To:** Jackie Beal <jmf8@cornell.edu>  
**Subject:** Fwd: Re: Work Group Meeting Summary #7 - Upstream Forest Home Bridge  
**Categories:** Filed by Newforma  
**Attachments:** WRK\_GP7\_smry.doc

Hello, Jackie.

Welcome to the Forest Home bridge project. We'll miss Hal, but look forward to your involvement. Right now we are waiting for NYSDOT comments on our final design. I do not expect to have another meeting until State comments are received.

The forwarded message is from our working group's community representative, Bruce Brittain. I've also attached a copy of the summary of our last meeting for general reference and help in reviewing these comments.

John

>>> Bruce Brittain <bruceb2@mindspring.com> 10/30/2009 4:33 PM >>>  
 (John: I have sent this to the typical list, but don't have e-mail addresses for Mark Laistner or James Warren. Could you please forward this to them? Thank you.)

Hi All--

Sorry for the delay in responding. I have been out of town for much of the last two months, as well as busy with other projects.

Thanks to John for the meeting summary. Specific comments appear below:

### 2. Setback between the curb and the walkway at the Shipe yard

- Third Bulleted Item: Looking at Sheet PL-1, it appears that the walkway does not need to begin to widen until Station 9+20 or 9+30.
- Fourth Bulleted Item: I believe that "station 0+94" should read "station 10+94."

### 3. Railings

- Third Bulleted Item: I believe that "station 0+94" should read "station 10+94."

### 4. Right of Way

- I think that that the community's concerns about the excessively wide ROWs can best be allayed through specific wording in the deeds that would limit what can be done in the ROW, rather than just having the deeds state "why these widths are needed." My notes and recollection from the meeting also indicate that the WG had agreed to include some restrictive wording in the deeds.

### 6. Pedestrian Lighting

- The FHIA Annual Meeting was held last week, and the decision seemed to be that we will not be ready to have lighting included in the bridge project. The community seems to be divided, with some wanting to replace the existing vehicle-scale lighting with pedestrian-scale lighting, others

wishing to eliminate lighting altogether, and others happy with the status quo. It appears that it may be some time before the FH neighborhood can come up with a community-wide solution to the lighting issue that most residents can support.

#### 7. Other Bridge and Roadway Features

- Second Bulleted Item: If the bridge project gets bumped until 2011, will there still be a chance to coordinate the construction of the Caldwell Road entrance feature with the bridge approach reconstruction, so that the discontinuity in the centerline of Caldwell does not become an issue?
- Seventh Bulleted Item: It's not just a concern about the water and sewer lines fitting within the girders near the abutments, but also the cantilever brackets for the walkway. If the girders have around 10 inches of camber, it appears that there may (barely) be enough room.
- We also discussed the concern that the Forest Home Traffic Calming Plan calls for the centerline of the 300 block of Forest Home Drive to be shifted slightly to the east to make room for a future walkway along that street, and that we might need an intersection-approach alignment that would accommodate both present and future alignments of the centerline of FHD. As I recall, the WG decided to align the intersection approach with the current centerline of FHD, deferring any possible intersection realignment to be part of the (eventual) reconstruction of the 300 block of FHD.

#### 8. Remaining process to advance the project to construction

- I understand that "The sponsor is not permitted to initiate right of way negotiations until this authorization is received." However, might it be possible for a third party (me? the Town?) to initiate preliminary negotiations, in order to speed the process? Also, would the use of temporary (rather than permanent) easements make the negotiations go more quickly?

Thanks again to John for the meeting summary, and for pushing this project along toward completion.

--Bruce

On Sep 17, 2009, at 9:03 AM, John Lampman wrote:

Everyone: A summary of the subject meeting is attached for your review and information. Please let me know of any errors or omissions.

John

<WRK\_GP7\_smry.doc>

<USB.FDR.Brittain.Comments.doc>