TOWN OF HUDSON

Planning Board

Glenn Della-Monica, Chairman Marilyn McGrath, Selectmen Liaison

12 School Street · Hudson, New Hampshire 03051 · Tel: 603-886-6008 · Fax: 603-594-1142

PUBLIC MEETING
TOWN OF HUDSON, NH
SEPTEMBER 28, 2016

The Town of Hudson Planning Board will hold a regularly scheduled meeting on Wednesday, September 28, 2016 at 7:00 p.m. in the "Buxton Community Development Conference Room" at Town Hall. The following items will be on the agenda:

I. CALL TO ORDER BY CHAIRPERSON AT 7:00 P.M.
II. PLEDGE OF ALLEGIANCE
III. ROLL CALL
IV. SEATING OF ALTERNATES
V. MINUTES OF PREVIOUS MEETING(S)
VI. CASES REQUESTED FOR DEFERRAL
VII. CORRESPONDENCE

VIII. PERFORMANCE SURETIES

A. Road Guarantee Estimate Form for Orchard at Nottingham OSD Subdivision.
90 Gowing Road -- Map 231/Lot 053 -- SB# 09-15

Reference Memo dated 09-07-16 from Elvis Dhima, Town Eng., to John Cashell, Town Planner.

IX. ZBA INPUT ONLY
X. PUBLIC HEARINGS
XI. OLD BUSINESS/PUBLIC HEARINGS
XII. DESIGN REVIEW PHASE
XIII. CONCEPTUAL REVIEW ONLY
XIV. NEW BUSINESS/PUBLIC HEARINGS

XV. OTHER BUSINESS

A. Discuss Traffic Improvement Projects associated with Lowell Rd (Rte. 3A) and Central St. (NH Rte. 111) The Intersection of Kimball Hill Road/Route 111 and Greeley Road - Modify the existing traffic signal to provide an exclusive through and left turn phase from Kimball Hill Road into the intersection.

XVI. ADJOURNMENT

All plans and applications are available for review in the Planning Office. Comments may be submitted in writing until 10:00 a.m. on the Tuesday prior to the day of the meeting.

The public is invited to attend.

John M. Cashell
Town Planner

POSTED: Town Hall, Library, Post Office – 09-15-16

Packet: 09/28/2016

Establish Surety for Nottingham OSD Subdivision

Staff Report

September 28, 2016

SITE: 90 Gowing Road -- Map 231/Lot 053 -- SB# 09-15

ZONING: Residential-Two (R-2) – Minimum Lot Size w/out sewer or water 60,000 sf for a duplex and 43,560 sf (1 acre) for a single-family dwelling and 150 ft. of frontage.

PURPOSE OF PETITION: To establish a surety for the Orchard at Nottingham OSD Subdivision, Map 231/Lot 053, in the amount of $134,888.57, in accordance with the Town Eng's. attached memo and Road Guarantee Estimate Form, dated 7 SEPT 16.

RECOMMENDATION: Per the written recommendation of the Town Eng., Elvis Dhima, the board should vote to establish a surety for this subdivision in the recommended amount of $134,888.57.

DRAFT MOTION:

I move to establish a surety in the amount of $134,888.57 for the completion of the Orchard at Nottingham OSD Subdivision, Map 231/Lot 053, in its entirety, and in accordance with the written recommendation of the Town Engineer, Elvis Dhima's Interoffice Memo in file, dated 7 SEPT 2016, together with the Road Guarantee Estimate Form. Note: said surety shall be established in the form of a Hampton-style letter of credit or cash deposit held by the Town.

Motion by: _____ Second: _____ Carried/Failed: _____.

Interoffice Memo

Date: September 7, 2016

To: John Cashell, Town Planner

From: Elvis Dhima, P.E., Town Engineer

Re: **Road Guarantee Estimate Form for Stonewall Drive** E 20.

Attached please find a Road Guarantee Estimate Form to establish a performance guarantee for Stonewall Drive.

The Engineering Department has reviewed the form, and we find that the bond amount of $134,880.57 is appropriate to cover the work for completion of the roads. Please place this on your next available agenda for review and action.

cc: Kevin Burns, Road Agent

Enclosure

TOWN OF HUDSON, NH
ROAD GUARANTEE ESTIMATE FORM

I hereby certify that, in addition to any work already completed, the following itemized statement and estimate unit costs will complete all improvements required by the Hudson, NH Planning Board for the following Streets:

Owner/Developer Nam KLN Construction Company Da

Project Name: _Orchard At Nottingham_____ Map: ____ 231 Lo

Street Nam Stonewall Drive Street Length: _____ 1300'

								Total	Bo
Clearing, 50' width		1	A.C.		@	$7,500.00	=	$ 7,500.00	
Excavation		4200	C.Y.		@	$ 5.00	=	$ 21,000.00	
Ledge Removal Mass			C.Y.		@	$ 25.00	=		
Trench Ledge			C.Y.		@	$ 50.00	=		
Drainage Swales			L.F.		@	$ 5.00	=		
Drainage Swale w/Riprap			L.F.		@	$ 7.00	=		
Hay Bale Dike			EA		@	$ 4.00	=		
Silt Fence		750	L.F.		@	$ 4.00	=	$ 3,000.00	
Storm Drains Size/Type									
12" RCP		426	L.F.		@	$ 30.00	=	$ 12,780.00	
15" RCP		300	L.F.		@	$ 34.00	=	$ 10,200.00	
18" RCP			L.F.		@	$ 38.00	=		
21" RCP			L.F.		@	$ 42.00	=		
24" RCP		104	L.F.		@	$ 46.00	=	$ 4,784.00	
30" RCP			L.F.		@	$ 54.00	=		
36" RCP			L.F.		@	$ 66.00	=		
6" PVC			L.F.		@	$20.00	=		
6" Underdrain			L.F.		@	$ 15.00	=		
8" Underdrain			L.F.		@	$ 16.00	=		
Additional Excavation for Structure			C.Y.		@	$ 6.00	=		
4' Catch Basins		48	V.F.		@	$ 250.00	=	$ 12,000.00	
5' Catch Basins			V.F.		@	$ 275.00	=		
4' Drain Manholes		16	V.F.		@	$ 275.00	=	$ 4,400.00	
5' Drain Manholes			V.F.		@	$ 310.00	=		
Headwalls		1	EA.		@	$1,300.00	=	$ 1,300.00	
Rip-Rap		135	S.Y.		@	$ 36.00	=	$ 4,860.00	

Town of Hudson Road Guarantee Estimate

Subdivision Name:Orchard At Nottingham

										Total	Bo
Sanitary Sewer Size **No Sewer**											
6" PVC Service Connection						L.F.		@	$ 20.00	=	
8" PVC											
0' - 12' Depth						L.F.		@	$ 50.00	=	
12' - 18' Depth						L.F.		@	$ 75.00	=	
10" PVC						L.F.		@	$ 75.00		
Other						L.F.		@			
Sanitary Sewer Manholes 4' dia.						V.F.		@	$ 300.00	=	
Sanitary Sewer Manholes 5' dia.						V.F.		@	$ 325.00	=	
Service Cleanout						EA.		@	$ 110.00	=	
Water Main Size (valves included) **No Water**											
4" DIP Class 52						L.F.		@	$ 53.00	=	
6" DIP Class 52						L.F.		@	$ 40.00	=	
8" DIP Class 52						L.F.		@	$ 47.00	=	
10" DIP Class 52						L.F.		@	$ 52.00	=	
12" DIP Class 52						L.F.		@	$ 55.00	=	
T/S&V						L.F.		@	$3,500.00	=	
Hydrants						EA		@	$ 3,000.00	=	
1" Copper Service (stops included						EA.		@	$ 400.00	=	
Bank Run Gravel			1450	C.Y.		@	$ 14.00	=	$ 20,300.00		
Crushed Bank Run Gravel			720	C.Y.		@	$ 18.00	=	$ 12,960.00		
Sand Cushion				C.Y.		@	$12.00	=			
Hot Bituminous Pavement 28' width											
2" Base Course Type C			502	TONS		@	$ 85.00	=	$ 42,670.00		
1 1/2" Wearing Course Type F			378	TONS		@	$ 85.00	=	$ 32,130.00	$	
Other						@		=			
Tack Coat			4045	S.Y.		@	$ 0.20	=	$ 809.00	$	
Curbing											
Granite			2280	L.F.		@	$ 22.00	=	$ 50,160.00		
Cape Cod				L.F.		@	$ 6.00	=			
Sidewalks											
5' Wide bituminous			722	S.Y.		@	$ 30.00	=	$ 21,660.00		
Loam and Seed											
Easement areas				L.F.		@	$ 6.00	=			
R.O.W. areas			2600	L.F.		@	$ 5.00	=	$ 13,000.00		

Town of Hudson Road Guarantee Estimate

Subdivision Name:Orchard At Nottingham _____

									Total	**Bo**
Bounds and Pins										
Property Pins		54	EA.		@	$	175.00	=	$ 9,450.00	
Road Bounds		16	EA.		@	$	325.00	=	$ 5,200.00	
Stop Signs		1	EA.		@	$	75.00	=	$ 75.00	
Street Signs		1	EA.		@	$	85.00	=	$ 85.00	
As-Built Plans		1300	L.F.		@	$	4.00	=	$ 5,200.00	
Landscaping										
Trees		3	EA.		@	$	375.00	=	$ 1,125.00	
Bushes		N/A	EA.		@	$	200.00	=		
Guard Rails		N/A	L.F.		@	$	50.00	=		
Utility Trench (Elec/Tel/TV)		N/A	L.F.		@		$35.00	=		
Other required improvements										
(itemize on separate sheet)		N/A	S.F.		@		$0.50	=		

Subtotal:	$ 296,648.00
3% Mobilization	$ 8,899.44
Engineering & Contingencies (10% subtotal):	$ 29,664.80
10% Maintenance Level:	$ 29,664.80
Total Estimate:	$ 364,877.04

Prepares Name: Don Nicolls_____ Date: August 30, 2016

rev 3/21/16
rev 7/9/10
excel bond form

Packet: 09/28/2016

Discuss Traffic Improvement Projects

Staff Report

September 28, 2016

Per the request of the Planning Board Chair, this item is on the agenda in order to discuss traffic improvement projects associated with Lowell Rd (Rte. 3A) and Central St. (NH Rte. 111); RE: below emails from Charles Brackett to Glenn Della-Monica and this author:

John,

Charlie and I discussed a few recommendations that might go to the Highway Safety Committee. Could you please add an agenda item to the next meeting with the ones below?

Our intent is to send a motion recommending these items to the Highway Safety Committee for consideration.

Also, add one more:

At the intersection of Pelham Rd and Lowell Road, add a traffic light. The light would be coordinated with the one at Nottingham Square, and would essentially be a fourth phase to that light, treating both intersections as one. It would only be green for Pelham Rd and red for Lowell Rd when northbound Lowell Rd was red at Nottingham Square *and* the southbound left arrow into Nottingham Square from Lowell Rd was also red. If the Safety Committee viewed it favorably, it would be worth funding through a warrant article at the Town Meeting, as would some of the others.

Glenn Della-Monica

To: Glenn Della-Monica, Chair:

As you requested, and as discussed in the last Planning Board meeting, I listed below three traffic areas that might be reviewed by the Highway Safety Committee on the Planning Board's behalf:

1. The Intersection of Kimball Hill Road/Route 111 and Greeley St. - Modify the existing traffic signal to provide an exclusive through and left turn phase from Kimball Hill Road into the intersection

2. The Intersection of Birch Street and Lowell Road - Relocate the utility pole on the southwest corner further away from the intersection. This will improve the right turn movements southward onto Lowell Road from Birch Street. This will help all vehicle, but in particular, the large truck movements.

3. Entrance Ramp onto Sagamore Bridge Highway - The traffic during rush hour backs up on the southbound side of Lowell Road at the Wason Road intersection. Look into modifying the ramp and provide two lane ramp access to the Sagamore Highway from Lowell Road. This may require modification to the Wason Road intersection.

Glenn I hope I have captured our conversation
Charlie

In regard to the above-cited traffic issues, and in preparation for Wednesday night's discussion on same, staff has included in this staff report, photos of each intersection in the numbered sequence as cited-above.

Also included in this staff report, are photos of the subject intersections and road improvements, as cited in Hudson's 2004 Updated Corridor Improvement Study, prepared by VHB, Inc.

In regard to the above-cited SB lane addition for Sagamore Bridge Rd./Wason Rd./Lowell Rd., please be aware of the following action that is scheduled to take place concerning same:

This fall (2016), at the town's request, NRPC will conduct a thorough traffic analysis of the Lowell Rd. southbound corridor, exclusive to adding a 2d exclusive WB lane on Wason Rd., leading to a 2d SB lane on Lowell Rd, with both lanes leading onto a 2d WB lane on the Sagamore Bridge Rd. entrance ramp.

NRPC's analysis will include producing traffic counts and proposed improvements for Lowell Rd., Wason Rd. and Sagamore Bridge Rd., relative to adding said additional lanes on each way. NRPC's efforts, working with the Town, will complete the requirements for the Town/NRPC to apply for a Congestion Mitigation and Air Quality Improvement (CMAQ) grant for this traffic improvement project.

In addition to the above proposed traffic improvement projects, staff would like to relate to the board another improvement project that requires the support of the BOS. That is, since the completion of the Ferry St./Central St./Library St./Highland St. Traffic Signal Improvement Project, the town has received many complaints about insufficient traffic signal time sequences at:

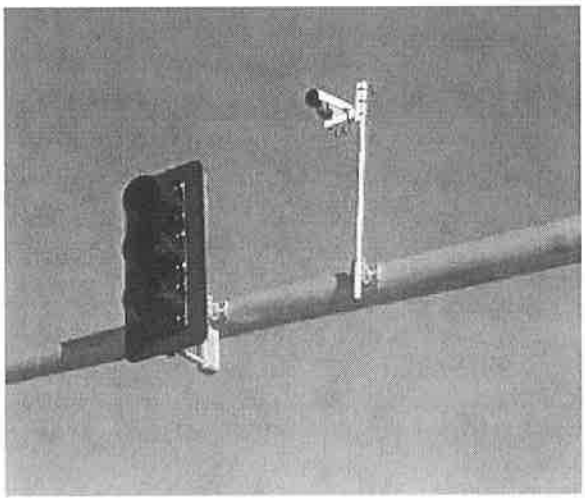
(i) Central St. NB, at the Ferry St.,
(ii) Library St. NB at Ferry St., and
(iii) Highland St. WB at the Derry St. signal.

In discussing the above insufficient sequences with the Town Eng., Elvis Dhima, he informed staff that the town could correct these insufficient sequences, which are exclusive to the A.M. & P.M. Peak Commuter Hrs., by installing cameras at a cost of $125,000.00. Such cameras are described below, together with FAQ's about same.

Video Cameras at Signalized Intersections Frequently Asked Questions

Topics:

- What are the cameras for?
- Why are the cameras attached to the signals so high?
- Who is watching me through these cameras?
- IMAGE: Typical view from a video detection camera
- Will I get a ticket if I run the red light or speed through the intersection?
- Is my privacy being violated?
- How long are the videos kept?
- Are these cameras tracking my movements?
- Why go through the extra expense of installing cameras?



- IMAGES: What do these cameras look like?

What are the cameras for?

The overhead cameras you see at a traffic signal are solely for detecting the presence of vehicles in order to provide the best distribution of green time based on traffic demand. They are cost-effective replacements for in-ground induction loops that are cut into the pavement.

The cameras are not focused on you the driver, but instead on your vehicle as it moves towards the intersection. As your vehicle enters defined areas or "zones" within the camera's field of view, the camera's processor detects a change in the "zone". An output is sent to the traffic signal's controller (the computerized "brain" housed in a nearby metallic cabinet controlling the intersection's timing) that says a vehicle is requesting green time for its direction.

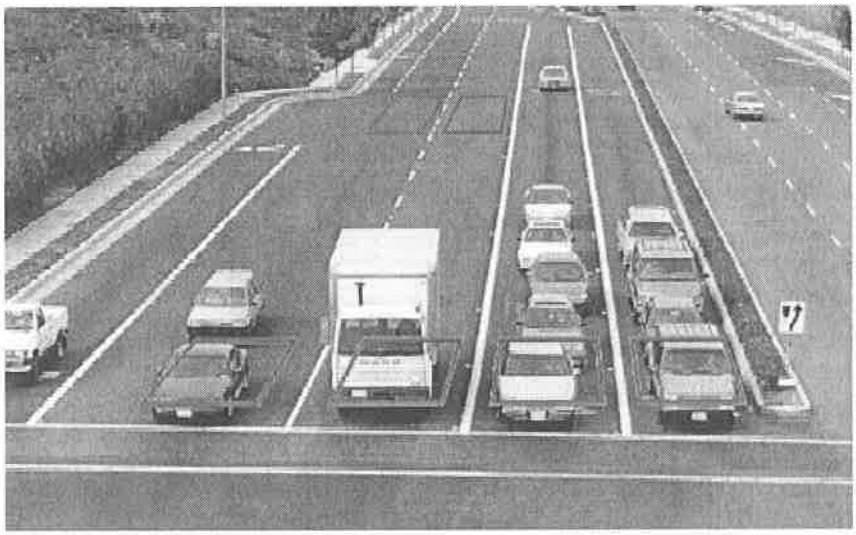
Why are the cameras attached to the signals so high?

A higher mounting position allows for a better angle and wider view, which in turn generally allows for 1 camera to cover all lanes in a particular direction. Lower mounting heights (at signal indications' height) would not provide an effective image. MoDOT generally looks at mounting heights of around 30', which is at least 10' above the height of the signal indications.

Who is watching me through these cameras?

There is no constant surveillance or archiving of these images. The camera view is a fixed focus, fixed location image (there is no zooming or moving the cameras once they are installed). The image is analyzed by the camera processor ONLY for the simple presence of vehicles within defined areas or "zones". The resolution of the image by these cameras is NOT good enough to read license plates or distinguish any facial features, as shown in a typical snapshot here:

Typical view from a video detection camera:



The red rectangles are the "zones" drawn via processor software to target the areas to detect vehicles.

Will I get a ticket if I run the red light or speed through the intersection?

These particular cameras are in no way tied to any law enforcement system. They are solely for detecting the presence of vehicles within their view. They are not capable of producing an image detailed enough to read license plates or facial features.

However, the city of Arnold, the first city in Missouri, has enacted a local ordinance to allow for red light running camera law enforcement. An entirely separate camera system would be installed for this purpose, as the

enforcement cameras are much more detailed in their resolution. These intersections have yet to be determined on MoDOT's system, however, when they are determined and installed, they will be prominently signed to differentiate from the two different camera systems.

Is my privacy being violated?

No. First of all, the cameras are focused on public property and are not aimed onto private property. Secondly, the cameras and their processor are incapable of displaying or sorting through an image which yields any distinguishing features or identification.

How long are the videos kept?

There is no recording of these cameras. The video is analyzed by the processor in real-time, with no storage whatsoever of the image stream.

Are these cameras tracking my movements?

Absolutely not. The cameras are incapable of producing an image which renders any specific identification of the vehicle or driver. The camera processor's only function is to determine if a vehicle is within the predetermined "zones". It has no surveillance capability.

Why go through the extra expense of installing cameras?

Cameras are now the most cost-effective way of performing vehicle detection. Previously, the primary method of vehicle detection was done by cutting the pavement a few inches and installing a wire "loop" just below the surface. This "loop" is charged with a small electric current originating from the traffic signal control cabinet. As a metal object (i.e. vehicle) travels through the electric current's field, the change in the inductance from the metallic object triggers an output that a vehicle is within the "loop". The signal controller responds to this output with orderly green time.

These in-ground loops have both near-term and long-term costs. The labor for a work crew to saw-cut pavement while shutting down that lane of traffic, and the cost of material (wire, conduit, loop processors) are immediate costs. In the long run, additional costs pile up. The saw cutting of the pavement weakens its strength, resulting in shorter service life and more maintenance costs for pavement repair. When in-ground loops fail, the entire loop must be recut into the pavement again, so the labor and traffic disruption costs are renewed.

Video detection cameras, like most electronics, have seen their costs steadily drop since the technology was first introduced. Camera processors, like all computers, have increased their capability as prices drop. Installation is done above the surface of the road, and usually away from the flow of traffic. The pavement remains undisturbed and is capable of lasting longer. When cameras or processors fail, they are simply and quickly replaced without a great disturbance in traffic flow.

Comparing the overall costs of the in-ground loops vs. the overhead cameras today gives the cameras the edge. It is an efficient use of taxpayer money for the job they perform.

IMAGES: What do these cameras look like?

- Arm Mounted Camera
- Pipe Extension Camera
- Pole Retrofitted Camera

Staff has provided below a DRAFT MOTION concerning the above traffic improvement topic. Please note, additional motions or a variation of the below motion may arise Wednesday night. Please also note, the board's request for traffic improvements to be considered for review and action by the Highway Safety Committee (HSC) must first be forwarded to the BOS. In turn, it is up to the BOS to decide what action, if any, they want the HSC to undertake concerning the matters at hand .

DRAFT MOTION:

I move for the Planning Board to recommend to the Board of Selectmen (BOS) that they request the Highway Safety Committee to undertake the steps necessary in order to determine the feasibility of implementing the following traffic improvement projects, and that such steps shall include, but not be limited to, reviewing each project, developing a scope of work, cost estimate and implementation schedule:

1) Intersection of Kimball Hill Road/Route 111/Greeley St. - modify the existing traffic signal at this intersection to include an exclusive left turn arrow for Kimball Hill Road WB onto Rte. 111, and for this arrow to coincide with an added exclusive left turn arrow for Greeley St. EB onto Rte. 111. Also, exclusive travel lanes be added at this intersection for Kimball Hill Rd. WB and N (through) traffic.

2) Intersection of Birch Street and Lowell Road - relocate the utility pole on the southwest corner of this intersection, i.e., to a location that provides safe and efficient SB Birch St. movements onto Lowell Rd.

3) Entrance ramp onto Sagamore Bridge Highway - modify this ramp and provide two lane ramp access to Sagamore Bridge Rd. from Lowell Road and Wason Rd.

4) Pelham Rd./Lowell Rd. Intersection - add a traffic signal. Note: this signal would be coordinated with the one at Nottingham Square, and would essentially be a fourth phase to that traffic signal, treating both intersections as one. It would only be green for Pelham Rd and red for Lowell Rd when NB Lowell Rd was red at Nottingham Square *and* the SB left arrow into Nottingham Square from Lowell Rd was also red.

5) Amend the Ferry St./Central St./Library St./Highland St. Traffic Signal Improvement Project by installing cameras, at the following legs of this multiple road junction:

   (i) Central St. NB, at the Ferry St.,
   (ii) Library St. NB at Ferry St., and
   (iii) Highland St. WB at the Derry St. signal.

Motion: _____ Second: _____ Carried/Failed: _____


© 2016 Google
Image Landsat
Google Earth
2002
Imagery Date: 12/31/1969 42°46'17.82" N 71°24'29.43" W elev 189 ft eye alt 375 ft


4 Birch St
Exit Street View
N
© 2016 Google
© 2016 Google
Google Earth
Report a problem
42°45'12.13" N 71°25'41.68" W elev 193 ft eye alt 154 ft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© 2016 Google
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1995
42°43'49.82" N 71°25'30.49" W elev 184 ft eye alt 2908 ft


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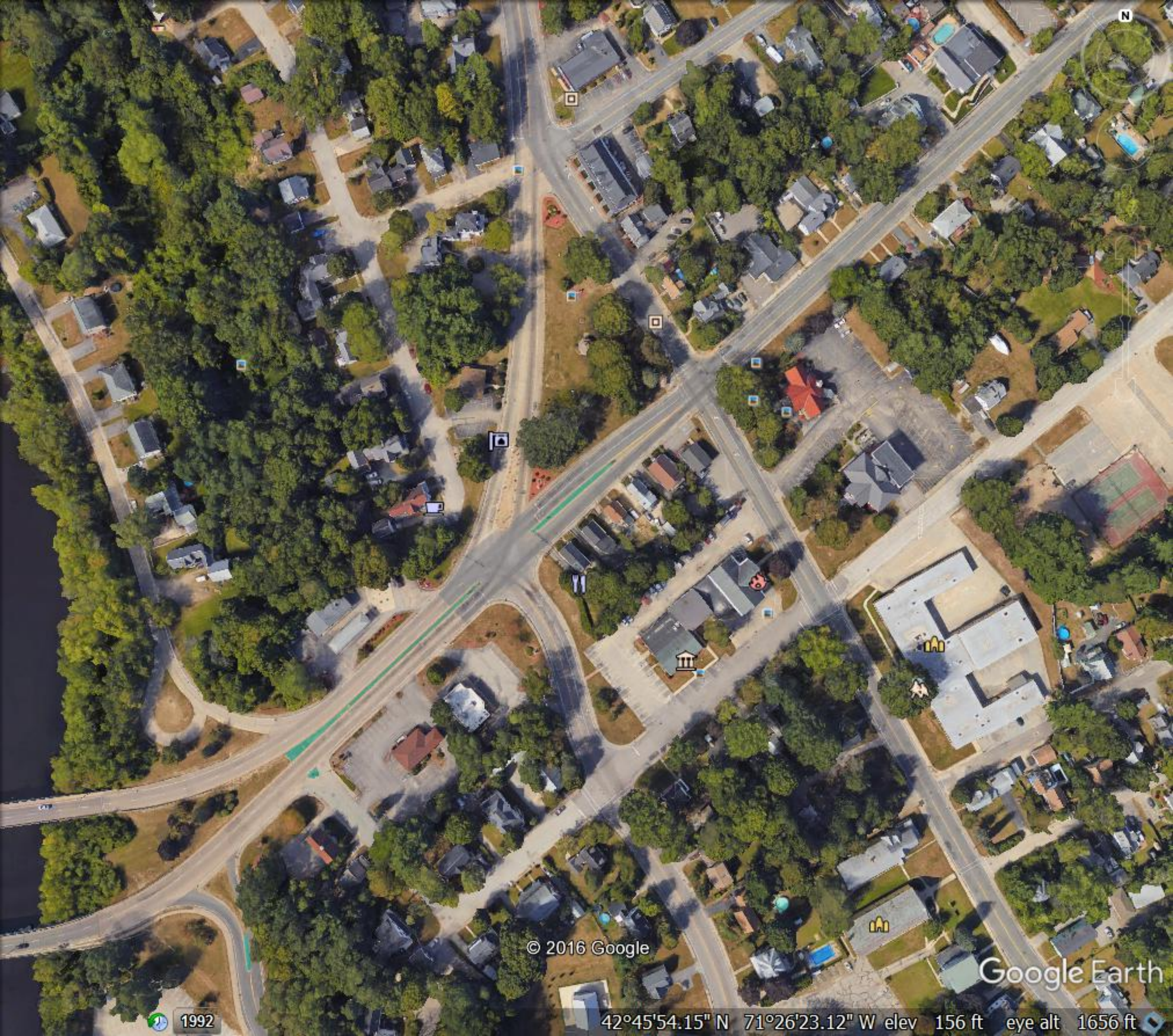
© 2016 Google
Google Earth
1992
42°44'52.17" N 71°25'34.53" W elev 182 ft eye alt 1338 ft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1992
42°45'54.15" N 71°26'23.12" W elev 156 ft eye alt 1656 ft