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April 24, 2014

Mr. Alan Clarance Business Manager Fay School 48 Main Street, PO Box 9106 Southborough, MA 01772

Via: Email: aclarance@fayschool.org

Reference: Route 30 Drainage Improvements

B+T Project No. M4608.62

Dear Mr. Clarance:

Thank you for forwarding Mr. Parry's letter of April, 2014 which among other issues outlined his understanding of the Route 30 drainage improvements as they relate to the Fay School Campus. We are writing to correct the statements made by Mr. Parry and his of how the Route 30 roadway improvement project has evolved and the nature of the drainage conditions in the area of the Fay School Campus. Mr. Parry's misrepresentation and interpretation of the discussion we had at a meeting with him on April 3<sup>rd</sup>, 2014 is particularly troubling as the purpose of that meeting was to clarify some of the drainage issues and statements that were made by Mr. Parry at a public meeting several days prior to April 3<sup>rd</sup>. Consequently, it is imperative that we provide the factual information for the record and correct the erroneous statements made by Mr. Parry in his letter.

In 2007 Fay School was advancing its plans for major campus improvements through the permit process with the Town Boards and Departments in Southborough. As part of this project review Beals and Thomas, Inc. met with the Southborough DPW and its consultant for the highway project, SEA. At the request of the DPW, Fay School incorporated a drain line on the Fay School Campus from Route 30 to the reservoir as part of its overall campus improvements. The purpose of this drain line was to take stormwater flow from properties located north of Route 30, including Fay School tennis courts and parking, the Churches, Southborough Town House and Saint Mark's Street in addition to Route 30 itself, to the reservoir. This drain line is described in a letter from Beals and Thomas, Inc. dated Sep 13, 2007 with an accompanying exhibit plan. The drain line approximately 800 feet long was installed as part of the construction undertaken by Fay School in 2008. The accommodation of this drain line within Fay School's Campus and the accompanying easement provide a great benefit to the Route 30 project.

Mr. Alan Clarance Business Manager Fay School April 24, 2014 Page 2

It should be noted that prior to 2007 neither Fay School nor Beals and Thomas, Inc. had any knowledge of the extent of the Town's Route 30 improvement project. Plans received in June 2008 clearly indicate that the Town had incorporated the extension of the road project west to Sears Road in 2007. This is directly contrary to the statements made by Mr. Parry.

On July 7, 2009 the Town of Southborough received over four inches of rain in a two hour period as reported by the Southborough DPW; in Framingham it was reported that over five inches occurred during a six hour period. The intensity of this storm caused significant flooding problems at a number of properties in Southborough including Fay School buildings and properties as well as the Southborough Town Library. US Government Technical Reports indicate that this was a 100 year storm event. As a consequence of this storm the inadequacy of the existing drainage systems in Route 30 and properties north of Route 30 was exposed.

Contrary to the statement made by Mr. Parry, however, this storm did not cause the Town to change its plans for the Route 30 project and extend it to Sears Road as plans with proposed drainage were already in place in 2007. What is perfectly clear from the plans prepared for the Town of Southborough is that Route 30 improvements extended to Sears Road on the 2007 plans. Mr. Parry stated that the flood event that occurred in July of 2009 was the reason that the drainage and extension of roadway improvements to Sears Road was undertaken by the Town. This statement is incorrect.

Although we could prepare a point by point rebuttal to address the items that Mr. Parry claims to have been discussed at the April 3<sup>rd</sup> meeting, it is our opinion that it is futile to take this step. However, we will offer that the summary of the meeting presented by Mr. Parry is disputed as it misrepresents the items which were discussed and misleads the reader to believe that Fay School and its engineers had agreed to the points suggested by Mr. Parry.

As you are aware Beals and Thomas, Inc. has been engaged by the Southborough Village Society, Inc. a group represented by Mr. Parry to prepare various exhibits related to the current plans for the Route 30 improvements. We have communicated to Mr. Parry that our firm takes no position regarding the proposed plans for Route 30 but has merely prepared computer generated renderings of the key intersections and sections of the Route 30 corridor that are proposed to be improved.



Mr. Alan Clarance Business Manager Fay School April 24, 2014 Page 3

Please be advised that Beals and Thomas, Inc. has decided that it will terminate its relationship with Mr. Parry and his organization due to the matters described in this letter. Should you choose to share this letter with other parties we have attached copies of the plans, portions of reports and correspondence referenced herein. We have also forwarded electronic copies of the letter and documents should that facilitate your use of the information to correct the record.

Very truly yours,

BEALS AND THOMAS, INC.

John E. Thomas Vice President

**Enclosures:** 

September 13, 2007 letter from Beals and Thomas, Inc. to Southborough

Conservation Commission Plan No. 1675P006C-001

Plan No. 1675P060H-005 (Drawing Number C105A)

July 7, 2009 Stormwater Conveyance Analysis

e-mails dated Friday April 11, 2014 between David LaPointe of Beals and

Thomas, Inc. and Mr. David Parry

2008 Construction Plans Southborough Main Street (Route 30) Sheets 4-8

JET/DJL/RPK/ars/M460862LT001



Reservoir Corporate Center 144 Turnpike Road (Route 9) Soulhborough, Massachusetts 01772-2104 mail@btiweb.com

Tel: 508-366-0560 Fax: 508-366-4391 www.btiweb.com

September 13, 2007

Mr. John Leeds, Chairman Conservation Commission Southborough Town House 17 Common Street Southborough, MA 01772

Via:

Hand Delivery

Reference:

Response to DPW Comments
Fay School Master Plan SMP/NOI
Southborough, Massachusetts
BTI Project No. 1675.10

Dear Chairman Leeds and Members of the Commission:

We are writing to respond to comments offered by the Town of Southborough Department of Public Works on August 22, 2007 regarding the Fay School Stormwater and Erosion Control Management Special Permit (SMP) and Notice of Intent (NOI) submittal. We have provided the comments from the DPW in bold font, followed by our response in italic font.

## Stormwater and Erosion Control Management Permit

1. Section 2.1.8 Floodplain – In this section of the SMP, the applicant states, "The Town of Southborough Board of Selectmen approved the new base flood elevation on July 10, 2007. An application for Letter of Map Revision was submitted to FEMA on July 12, 2007 and is currently under review." The Board of Selectmen (BOS) voted on July 10 to "approve the request for a Letter of Map Revision as submitted and revised" (BOS July 10, 2007 Meeting Minutes). We would like to clarify that the BOS voted to endorse the request for a change in the base flood elevation. The BOS did not vote to approve the new base flood elevation. The Federal Emergency Management Agency (FEMA) is the only regulatory body that would approve the new base flood elevation.

We acknowledge the clarification made in the DPW letter that the Board of Selectman voted on July 10, 2007 to "approve the request for a Letter of Map Revision as submitted and revised." We anticipate that FEMA will issue a response to the request for a Letter of Map Revision by December 6, 2007.

2. Section 2.3(a)8) and Section 2.3(c) – In the former section, the applicant states that "Disturbed areas will be minimized, and will be stabilized within 14 days of the last disturbance when work is complete. In the latter section, the applicant states that "Any areas that may remain disturbed for a period of time that is

Mr. John Leeds, Chairman Conservation Commission September 13, 2007 Page 2

more than three weeks will be at a minimum, temporarily stabilized by seeding or other temporary measures. Permanent stabilization through final seeding will be performed as areas are completed". The applicant shall clarify the difference in the two time frames described. We recommend that any area that may remain disturbed for a period of greater than 14 days, whether work is completed or not, be stabilized.

We acknowledge the discrepancy between stabilization timeframes for disturbed areas presented in aforementioned sections of the SMP. We agree that any area that may remain disturbed for a period of greater than 14 days, whether work is completed or not, be stabilized. All future documentation regarding site disturbance will incorporate this specification.

3. Section 10, Flood Plain and Wetland Exhibit – The applicant shall clarify if the flood plain displayed in this exhibit is the current FEMA floodplain, or is the requested revision to the FEMA floodplain. We recommend that both the current FEMA floodplain and the requested revised floodplain be displayed in this exhibit.

The flood plain line displayed in the Flood Plain and Wetland Exhibit is the current effective FEMA 100-year flood elevation (262.0 ft). The exhibit has been updated to show both the effective and corrected effective (259.5 ft) flood elevations and is enclosed with this letter. In addition, the site plans included in the SMP application depict both the current effective 100-Year flood elevation and the corrected effective 100-Year flood elevation.

#### Notice of Intent

1. Bordering Land Subject to Flooding – The line of Bordering Land Subject to Flooding is based upon the requested Letter of Map Revision to FEMA. At this time, FEMA has not approved the requested revision to the base flood map.

We recognize that the boundary line for the Bordering Land Subject to Flooding is based upon the requested Letter of Map Revision to FEMA. We anticipate that FEMA will issue a response to the request for a Letter of Map Revision by December 6, 2007. For clarification, the site plans included in the NOI submittal depict both the current effective 100-Year flood elevation and the corrected effective 100-Year flood elevation.

#### Route 30 Drainage

1. We would like to point out that the Town's roadway design consultant, SEA Consultants, Inc., coordinated with Beals and Thomas, Inc. (BTI) in addressing the discharge of the Town's Main Street (Route 30) stormwater through the Fay School Property. As part of the planned construction on Main Street, the Fay

Mr. John Leeds, Chairman Conservation Commission September 13, 2007 Page 3

School agreed to cooperate with the Town in finding an outlet for some of the stormwater runoff from Main Street. However, at this time, the Department of Public Works has not committed itself to the use of any specific type of stormwater devices, such as the Stormcepter unit referenced in the SMP and NOI.

The Fay School voluntarily agreed to utilize their drainage system as an outlet for some of the stormwater runoff from Route 30 (Main Street). Since the runoff from Route 30 will eventually be discharging into the Sudbury Reservoir (a critical area), it must be treated for water quality. The Stormwater Management Calculations within the SMP and NOI present the recommended method for providing water quality treatment, given the limited space within the Fay School campus.

Subsequent to the SMP/NOI submittals, we received drainage calculations and recommendations from the Town's roadway design consultant, SEA Consultants. Within their report, SEA Consultants recommended the use of a water quality device for pretreatment before discharging into the Fay School drainage network. This device was apparently selected for ease of maintenance, however, will not provide the level of total suspended solids removal required by the Massachusetts DEP Stormwater Policy. We will continue to work with SEA Consultants and the DPW to coordinate the design of the Route 30 drainage system.

Please contact us with any additional questions or comments. We look forward to working together with the Conservation Commission as the Fay School Master Plan project moves ahead.

Very truly yours,

BEALS AND THOMAS, INC.

Eric J. Las, P.E.

Associate

cc: Beth Rosenblum, Conservation Administrator, via: Hand Delivery

Vera Kolias, Town Planner, via: Hand Delivery

Karen Galligan, Superintendent of Public Works, via: Hand Delivery

John Woodsmall, Town Engineer, via: Hand Delivery

Nick Macy, Pinck & Co., via: Hand Delivery

Enclosure

JLJ/EJL/amb/167510LT012



46 Main Street
Plo, Box 9106
Southborough, Massachuselts 01772
String

THE FAY SCHOOL, INC.

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FIGURE 2-3A FLOOD PLAIN AND WETLAND

Date: 09/12/2007

Southborough, Massachusetts
FAY SCHOOL CAMPUS

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## July 7, 2009 Stormwater Conveyance Analysis

The Fay School 48 Main Street Southborough, Massachusetts

Presented to:

The Fay School 48 Main Street Southborough, MA 01772

Presented by:

Beals and Thomas, Inc. Reservoir Corporate Center 144 Turnpike Road Southborough, MA 01772

July 20, 2009

Southborough, Massachusetts 167527RP001

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Southborough, Massachusetts
167527RP001

## 1.0 INTRODUCTION

A severe storm system passed through the Fay School campus on July 7, 2009 causing significant damage to the campus including flooded basements, slope failures, and sidewalk / stairway failures. A weather gauge station in Framingham Station (KMAFRAMI3) reported a total precipitation of 5.23 inches on July 7, 2009. Of the total rainfall, 5.04 inches occurred within a six hour window. According to U.S. Bureau of Weather Technical Paper 40, 4.9 inches of rainfall in six hours in the Southborough area represents a 100-year storm, therefore the actual storm was greater than the 100-year storm.

The storm event caused several flooding problems in the area including basement flooding in the Southborough Public Library and numerous roadways flooded throughout the Town. The Southborough Department of Public Works (DPW) Superintendent, Karen Galligan, noted that the storm caused significant damage to roadways and stated that several roads were flooded. Ms. Galligan was quoted in a newspaper article that Southborough received more than 4.5-inches of rain in just over two hours which is a greater intensity than the Framingham rain gauge station indicated.

We have analyzed the problems experienced throughout the campus to identify the primary causes and potential solutions. As personnel from Beals and Thomas, Inc. (BTI) were not on-site during the storm, this report is based on the accounts of the storm provided by witnesses and site investigations performed by BTI on July 9 and July 15, 2009. Witness accounts have been provided by Ms. Colleen McCaw, Fay School's Director of Physical Plant, Mr. John Adams of Erland Construction, Inc., Mr. Tom O'Neil of Pinck and Company Inc, and Rob Gustavson, the Head of School.

The Town of Southborough requires that newly installed closed drainage systems be designed to convey the 50-year design storm. The Massachusetts Department of Environmental Protection Stormwater Handbook states that new development not increase peak stormwater discharge rates from a site. This regulation often requires that detention or retention facilities are designed to control storm-events up to the 100-year storm event. The newly installed drainage controls associated with the Maintenance Building addition, Village Dorms construction and the Primary School have been designed to meet these requirements. It is unknown what storm event the existing drainage system was designed to meet, however the standards employed at the time of the prior building construction were generally less stringent than those used by design professionals today.

Southborough, Massachusetts 167527RP001

## 2.0 DRAINAGE & SEWER FORENSIC ANALYSIS

The storm on July 7, 2009 caused significant damage to the Fay School campus. The following analysis offers an explanation as to why damage occurred and corrective measures that can be taken to prevent future damage. See Figure 1 for locations of each area discussed below.

The main campus slopes from north to south, draining from Main Street to the Sudbury Reservoir. The topography is fairly steep at the northern portion of the site and gradually levels out towards the southern half of the site. Drainage controls are scattered throughout the campus to capture runoff and transport it below grade. Most of the existing stormwater controls left in place after the recent construction projects direct runoff to a 30-inch culvert which discharges at a small head wall located along the southeastern property line of the site. The newly installed drainage control associated with the Maintenance Building, and Cottage Dorms, as well as the proposed drainage controls associated with the Primary School, direct runoff to a series of stormwater controls such as Bioretention areas and subsurface infiltration systems.

The limited drainage system within Main Street contributed significantly to the impacts that the storm had on the campus. The absence of adequate stormwater controls allowed runoff from Main Street, and tributary areas to the north, to sheet across the street onto adjacent down gradient properties. In areas where Main Street has curbing, runoff is concentrated at the curb line and flows down gradient, and often into curb cuts for driveways and walkways where catch basins are not available to intercept it.

Due to the intensity of the storm on July 7, 2009 Main Street flooded, forcing water over the crown of the road to the properties down gradient from Main Street. This caused a significant increase in the stormwater flow to the down gradient properties, as they received flow from Main Street and the additional uphill properties on the opposite side of the road. The Fay School campus was subject to this significant runoff flow increase. Approximately 11.7± additional acres drained to the campus during this storm event than would during a more common storm.

The Town of Southborough has started working towards correcting this problem as part of the Main Street Reconstruction project. The project will include curbing and drainage controls on Main Street between Sears Road and Boston Road, as well as other aesthetic improvements. At this time, the project is in its conceptual design stage and is not anticipated to be funded until 2012. Main Street is a state-owned highway and the proposed improvements will require approval and funding from the Massachusetts Highway Department. BTI, encourages Fay School to inform the Southborough Department of Public Works of the damage that occurred to the campus during the storm, and to advocate for significant drainage improvements along the campus frontage on Main Street to control impacts from large storm events.

It is also recommended that Fay School consider installing drainage controls for the campus area north of Main Street, which includes the Bracket House and tennis courts, concurrently with the Main Street Reconstruction project. Presently there are no stormwater controls within the North Campus Area. During larger storm events, runoff sheets from the North Campus down gradient

Southborough, Massachusetts

across Main Street and onto the Main Campus. If the Town is agreeable, Fay School could install a stormwater collection system in the North Campus that could tie into the stormwater collection system proposed as part of the Main Street Reconstruction project. Collecting and conveying stormwater prior to reaching Main Street would significantly reduce the amount of runoff that could bypass stormwater controls on Main Street and sheet into the Main Campus during larger storm events.

## 2.1 Area A: Slope Failure Behind Maintenance Building

Due to existing catch basin placement on Main Street, runoff from approximately 630 LF (linear feet) of Main Street flows down the West Entrance Driveway to the Maintenance Building during typical storm events. During this storm-event, Main Street flooded, causing uphill properties to drain to the Campus West Entrance that are not typically tributary to it. This flooding increased the tributary area by approximately 3.34± acres.

The excessive runoff that drained down the West Entrance driveway eventually caused a slope failure that washed out several newly planted trees to the west of the Maintenance Building. According to Colleen McCaw, approximately 4-inches of water flooded the basement of the Maintenance Building, causing water damage to interior walls.

There is an open-grate water quality inlet (WQI-02) to the west of the Maintenance Building. During the storm, the capacity of the grate was exceeded. This resulted in the ponding of water in the parking area, which eventually extended into the Maintenance Building. When the level of ponding in the Maintenance Building reached 4-inches above the basement floor elevation, the water overtopped the curb adjacent to WQI-2. The flood water flowed down the adjacent 3:1 sloped embankment caused significant erosion and ultimately the failure of the slope. The eroded area was approximately 25-feet in length. The following pictures illustrate the damage.

### **John Thomas**

From:

David LaPointe

Sent:

Friday, April 18, 2014 11:43 AM

To: Subject:

John Thomas FW: Exhibit plans

From: parrydavidw@aol.com [mailto:parrydavidw@aol.com]

Sent: Friday, April 11, 2014 6:28 PM

To: David LaPointe

Subject: Re: Exhibit plans

understood

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

From: David LaPointe < DLaPointe@btiweb.com >

To: parrydavidw <parrydavidw@aol.com>

Sent: Fri, Apr 11, 2014 6:01 pm Subject: RE: Exhibit plans

Document with signs attached as discussed.

I looked at the easement along the west side of Parkerville-that area isn't going to be paved (black) they are swales and basins that are typically vegetated (grass).

Again, I want to be sure that any postings on MySouthborough related to these exhibits do not make any inference that Beals and Thomas, Inc. prepared the "design" of these plan options or endorses one over the other. We have not studied the plans in great detail and are not familiar enough with the engineering behind the issues/need to do the work represented on either plan. We are preparing graphic representations only based upon your direction.

#### thanks

From: parrydavidw@aol.com [mailto:parrydavidw@aol.com]

Sent: Friday, April 11, 2014 5:21 PM

To: David LaPointe Subject: Re: Exhibit plans

that is great! Call ME WHEN DONE at home Phone 508 485 8544

----Original Message-----

From: David LaPointe < DLaPointe@btiweb.com>

To: David <parrydavidw@aol.com> Sent: Fri, Apr 11, 2014 5:10 pm

Subject: Exhibit plans

Attached are the plans separated as individual files so they could be attached as individual links on the website. We are also working on separating each of them into two, to make it easier for somebody to print out and be (somewhat) legible.

From: Regan Harrold

Sent: Friday, April 11, 2014 5:06 PM

To: David LaPointe Subject: first plans

## Regan E. Harrold, RLA, LEED AP Landscape Architect



# BEALS + THOMAS celebrating 30 years

144 Turnpike Road, Southborough, MA 01772 508.366.0560 ext. 4892 f: 508.366.4391 rharrold@bealsandthomas.com | www.bealsandthomas.com

