

6 | FIRE PROTECTION AND LIFE SAFETY ANALYSIS

date February 15, 2013
to Town of Wellesley Department of Public Works
from Sasaki Associates
project name Babson College - First Year Residence Hall
project # 26208.00
subject Fire Protection & Life Safety Analysis

This memorandum summarizes the analysis of project-related Fire Protection Requirements.

FIRE APPARATUS ACCESS

As discussed in a meeting at the Fire Station with Deputy Chief Don Fitzpatrick and Maurice Pilette on November 27, 2012, fire access to the proposed project will occur off of Campus Drive. The main point of access for the Fire Department will be the College Drive entry. This location will include the fire control annunciator with the fire control panel installed in the electrical room. A laminated plan will be provided at the College Drive entrance as well. Other entries will have key access.

Siamese connection will be as close to fire hydrant as possible with bell gong above. Current design is locating this equipment 133' from the College Drive hydrant which is perpendicular to building. Siamese connection is to be on an accessible pad. Redundant access from Forest Street is available, but is expected to be used only on rare occasions.

Refer to the attached site plan for fire truck turning movement at the access drive and for fire hydrant locations. The results of the hydrant flow test are provided in the Water Systems tab.

EVACUATION PLANS

Preliminary evacuation plans showing egress locations and emergency evacuation routes have been included in this section. The evacuation strategy will remain consistent throughout the remainder of the project and final evacuation plans will be included with the Building Permit submission to the town. A preliminary meeting was held with the Fire Department and communications are ongoing as needed to insure that all issues are addressed.

Attachments:

1. RFS Memorandum regarding Fire Alarm and Fire Protection dated January 15, 2013
2. Evacuation Plans
3. Fire Access Plan
4. RFS Flow Test Results dated December 6, 2012

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Memorandum

Date: January 15, 2013
Job No.: 12-7147
To: Town of Wellesley, Planning Board
From: Rist-Frost-Shumway Engineering/Sasaki Associates
Re: Babson College – First Year Residence Hall
Fire Protection/Life Safety Analysis

Fire Alarm:

An analog addressable fire alarm system with liquid crystal display and voice notification will be provided. The system will report via radio box to the Wellesley Fire Department. Detection components will include; duct mounted smoke detectors, heat detectors in selected locations and smoke detectors in corridors, storage rooms and select locations and CO detection in areas with fossil fuel burning sources and select adjacent locations. Initiation and annunciation devices including; manual pull stations, speaker/strobe units and control modules that connect to flow and tamper switches on the sprinkler system. Locations for devices will be in accordance with Massachusetts 780 CMR & 527 CMR-24, NFPA, and ADA requirements.

Fire Protection:

A hydrant flow test was conducted on the water service located in Babson College Drive on November 20, 2012. The location of the hydrant is approximately 135' from the proposed building. The results of the test indicated a static pressure of 125 psi, a residual pressure of 110 psi while flowing 1,163 gpm. The pressure in the municipal water system is supplemented by a domestic water booster pump and a fire pump located in Park Manor Central, a residence hall that is located adjacent to the project site. See attached letter from Rist-Frost-Shumway Engineering dated December 6, 2012 for additional information on the Hydrant Flow Test.

A new hydraulically calculated automatic sprinkler system will be provided throughout the building as required by the Massachusetts State Building Code and it will be installed in conformance with NFPA 13. A new 6-inch fire service will be located in the basement level mechanical room and will be provided with a double check valve assembly and a wet alarm check valve. A manual-wet standpipe system will be provided as required by the Massachusetts State Building Code. Standpipes will be provided in each of the required egress stairwells and at the ornamental center stair. Final system design of all fire protection systems will be coordinated with the Wellesley Fire Department.

SAB:alb

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SASAKI

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NOT FOR CONSTRUCTION
ISSUED FOR PERMIT ONLY

| No. | DESCRIPTION | DATE |
|-----|-----------------------|---------|
| 1 | ISSUED FOR PSI PERMIT | 2/15/13 |

DWG ISSUE & REVISION HISTORY

Stamp

Name of Owner / Applicant

Babson College
231 Forest Street
Wellesley, MA 02481



Project Title:

**FIRST YEAR RESIDENCE
HALL
BABSON COLLEGE**

231 Forest Street
Wellesley, MA 02481

Drawing Title:

**GROUND FLOOR
EVACUATION PLAN**

Project No. 26208.00 Scale: 1/16" = 1'-0"

Drawn By: TK

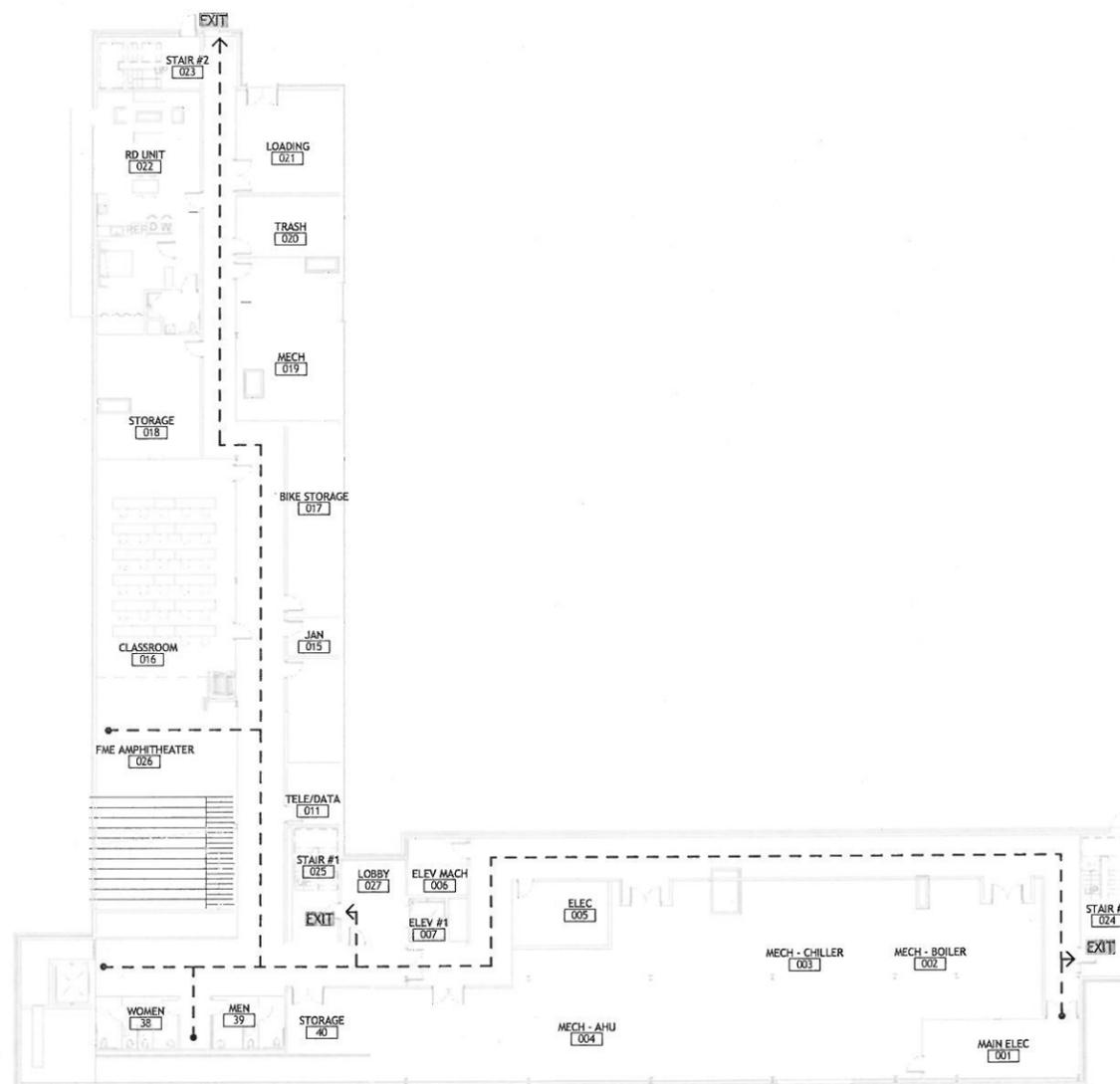
Checked By: JF

Approved By: VG

Date: FEBRUARY 15, 2013

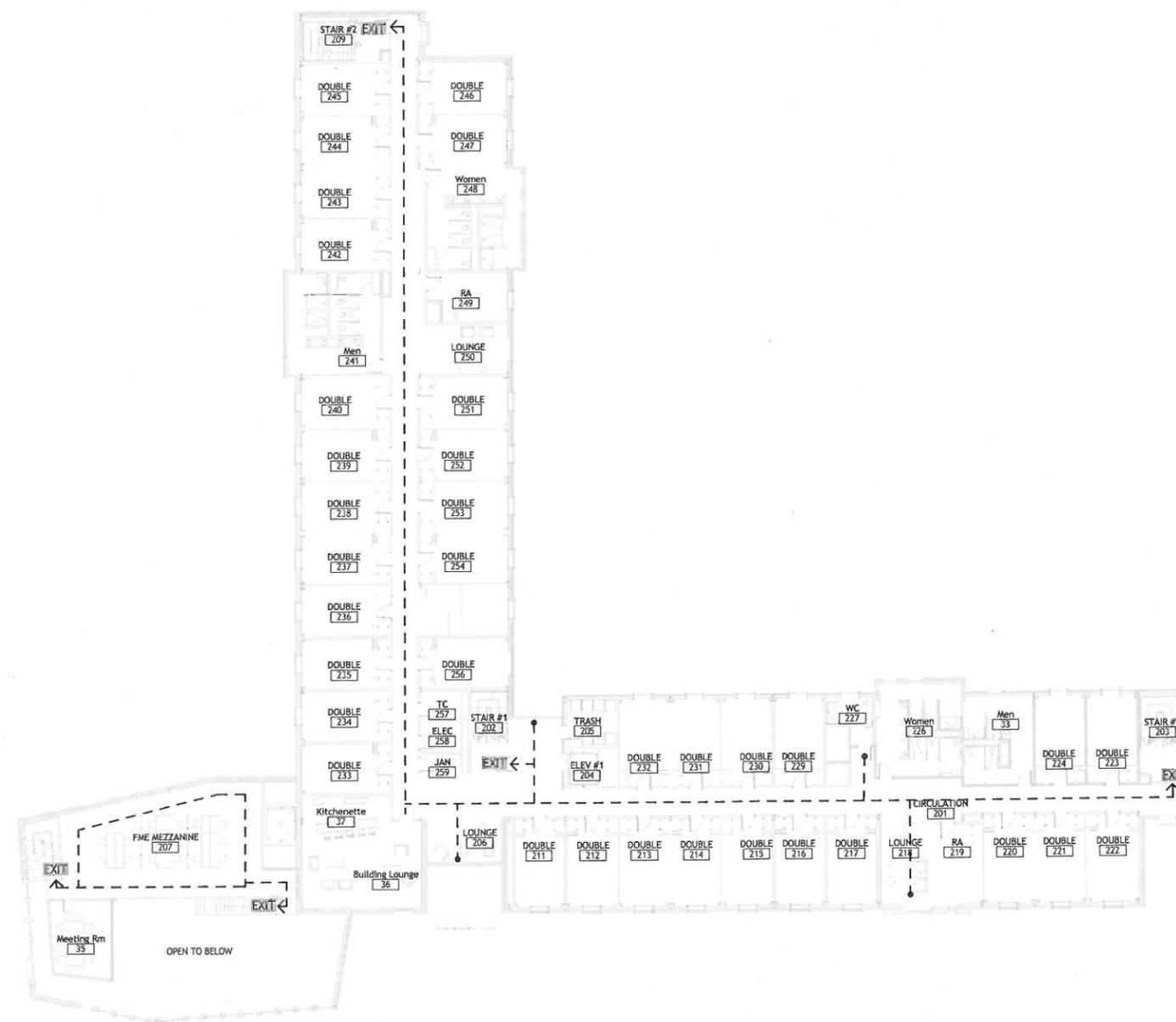
Drawing No.

A-020



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| No. | Description | Date |
|------------------------------|-------------|------|
| DWG ISSUE & REVISION HISTORY | | |

Stamp

Key Plan

Project Title:
FIRST YEAR RESIDENCE HALL
BABSON COLLEGE
 231 Forest Street
 Wellesley, MA 02481

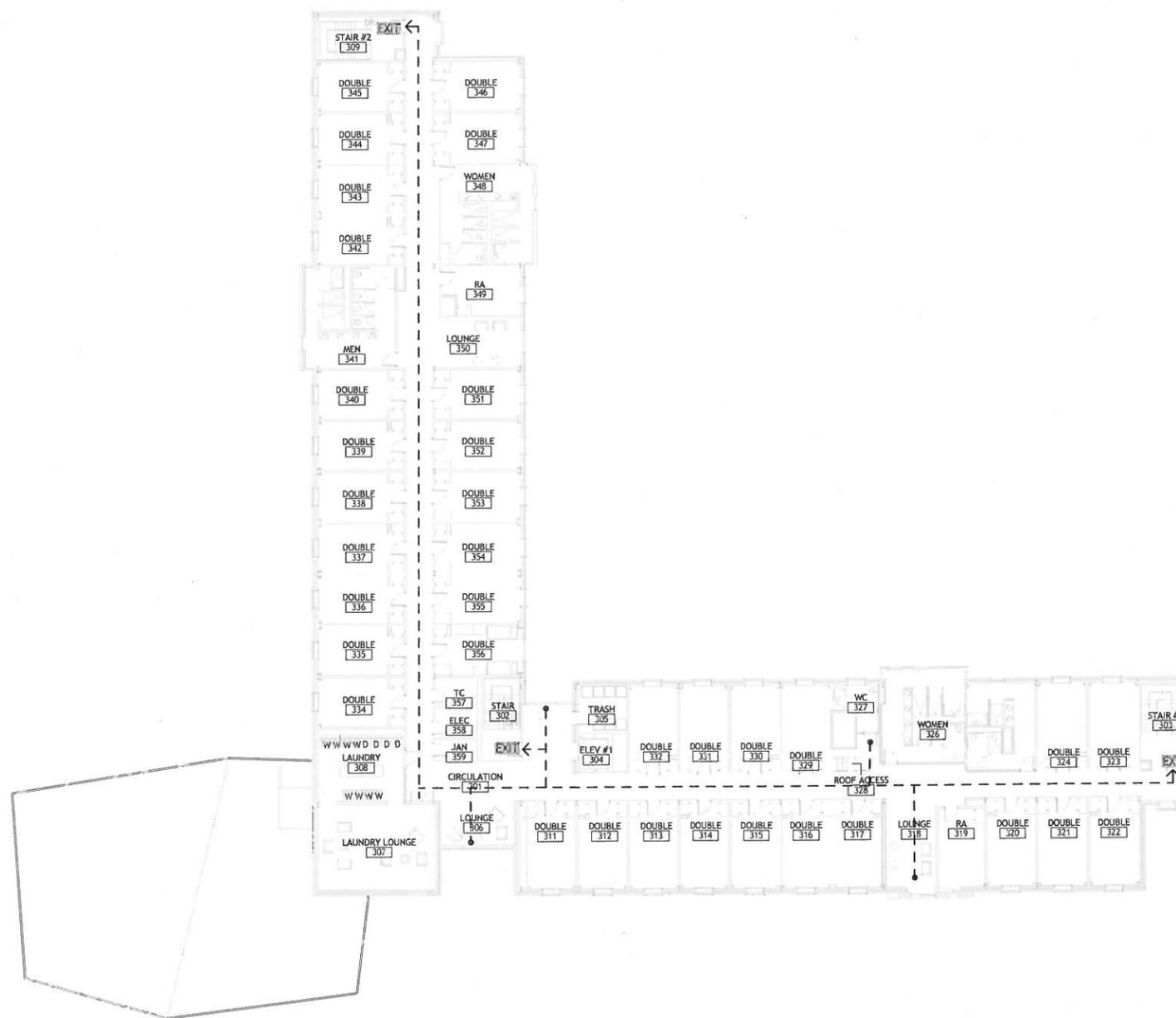
Drawing Title:
SECOND FLOOR EVACUATION PLAN

Project No. 26208.00 Scale: 1/16" = 1'-0"
 Drawn By: Author
 Checked By: Checker
 Approved By: Approver
 Date: 01/15/13

Drawing No. **A-022**

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| No. | Description | Date |
|------------------------------|-------------|------|
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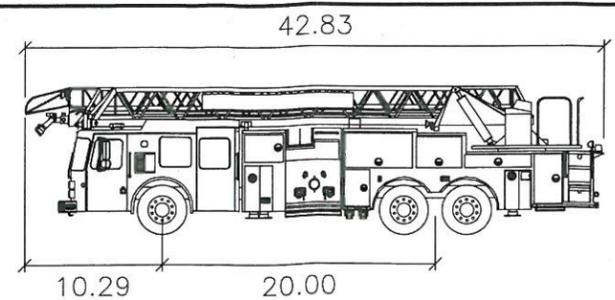
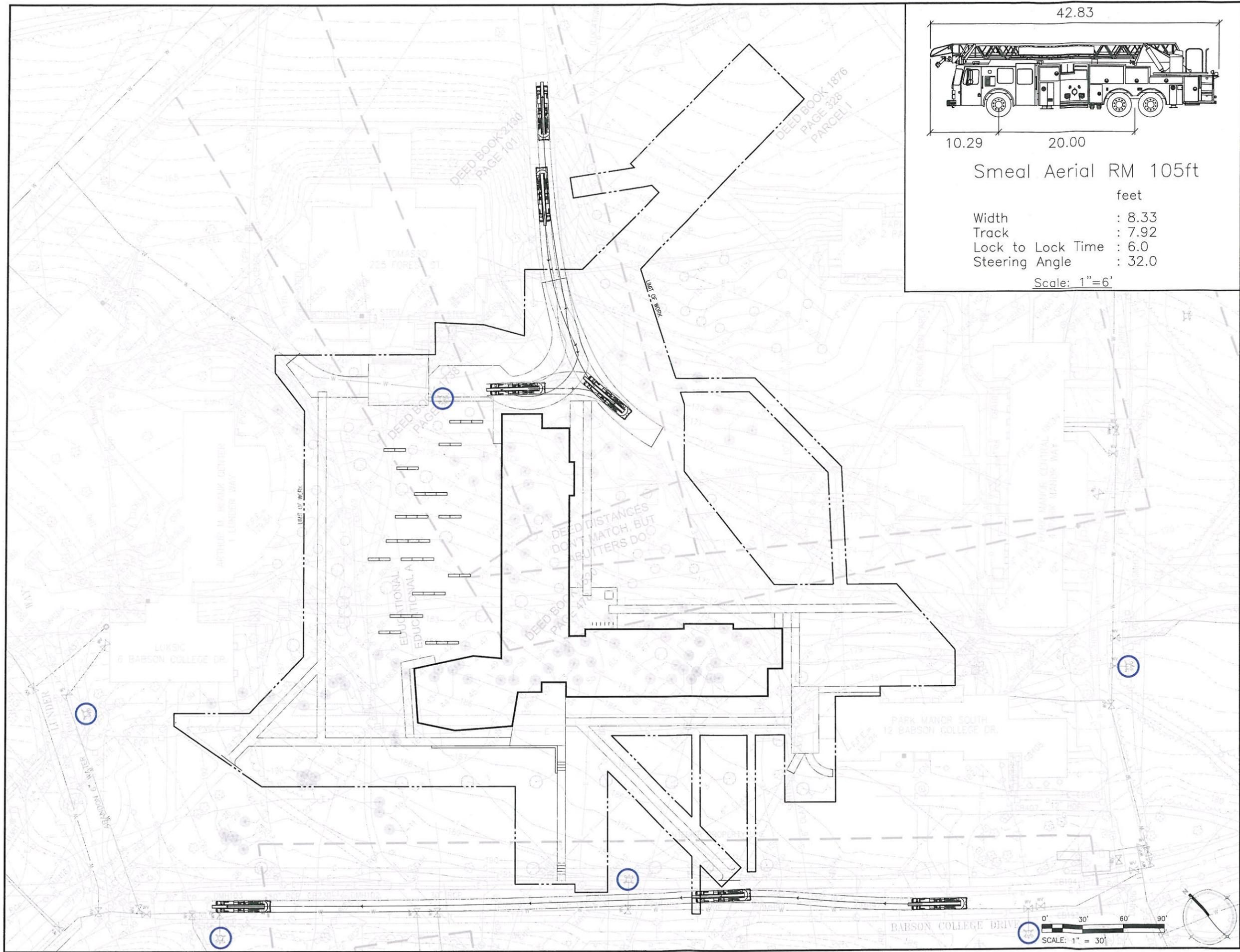
Key Plan

Project Title:
FIRST YEAR RESIDENCE HALL
BABSON COLLEGE
 231 Forest Street
 Wellesley, MA 02481

Drawing Title:
THIRD FLOOR EVACUATION PLAN

Project No. 26208.00 Scale: 1/16" = 1'-0"
 Drawn By: Author
 Checked By: Checker
 Approved By: Approver
 Date: 01/15/13

Drawing No. **A-023**



Smeal Aerial RM 105ft

- Width : 8.33
- Track : 7.92
- Lock to Lock Time : 6.0
- Steering Angle : 32.0

Scale: 1"=6'

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LEGEND
 HYDRANT LOCATION

| No. | Description | Date |
|------------------------------|-------------|------|
| DWG ISSUE & REVISION HISTORY | | |

Stamp

Name of Owner / Applicant:
Babson College
 231 Forest Street
 Wellesley, MA 02481

Project Title:
First Year Residence Hall
 Babson College
 10 Babson College Drive
 Wellesley, MA 02481

Drawing Title:
FIRE ACCESS PLAN

Project No. 26208.00 Scale: 1" = 30'
 Drawn By: BE, CM
 Checked By: NG, ZC
 Approved By: PH, SH
 Date: JANUARY 31, 2013

Drawing No. **C-FD**



December 6, 2012
RFS 12-7147

Tala Klinch, A.I.A. LEED AP
Sasaki Associates
64 Pleasant Street
Watertown, MA 02472

Re: Hydrant Flow Test
Babson College – First Year Residence Hall
Wellesley, Massachusetts

- MECHANICAL
- ELECTRICAL
- PLUMBING
- FIRE PROTECTION
- ELECOMMUNICATIONS
- STRUCTURAL
- CIVIL
- COMMISSIONING

Dear Tala:

A hydrant flow test was conducted near the proposed site along Babson College Drive on the Babson College campus on November 20, 2012. The flowing hydrant was located adjacent to the proposed site. The static hydrant was located adjacent to the Park Manor South building. The data that will be used for evaluation was gathered from a 1:30 p.m. test and the results are as follows:

| | |
|---|----------|
| Static Pressure | 125 PSI |
| Residual Pressure..... | 110 PSI |
| Flow | 1163 GPM |
| Estimated Quantity available at 20 PSI..... | 3325 GPM |
| Coefficient of Hydrant Outlet..... | 0.9 |
| Inside Diameter of Hydrant Outlet | 2-1/2" |

If there are any further questions or comments regarding this information, please do not hesitate to call.

Sincerely,

RIST-FROST-SHUMWAY ENGINEERING, P.C.

Alan Gray
Plumbing/Fire Protection Designer

ADG:alb
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cc: Zachary Chrisco