



To: Mr. Kevin Mahoney	Date: August 11, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Stair Materials</b>		

**Remarks/Observations:**

On Monday August 11, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was to review the report of unforeseen building construction material that had been found as a result of the demolition work. The following persons were on site or spoke with:

- Mr. Matt Maclean – Minuteman (by phone)
- Mr. Mario Marques – Capeway Roofing (by phone)
- Mr. Nevin Medeiros – Capeway’s demolition crew
- Mr. Carlos Daniel – Capeway’s demolition crew

The following items were discussed or observed:

1. At the request of Capeway, Gale travel to the site to observe the stair demolition work. Of specific concern was the stairway components that were located around the middle roof area.
2. Upon Gale’s arrival, Capeway’s demolition crew had removed that majority of the upper overburden components and had exposed the stairways that lead to the center portion of the roof; refer to photograph A.
3. Gale observed that the concrete material in this location appeared to be structural grade concrete that had been densely vibrated. Gale requested that Capeway’s demolition crew remove a section of the over burden at the lower limits of the stairway, which confirmed that the waterproofing system appears to extend under the stair system; refer to photograph B for location.



Photo A



Photo B

Minuteman Roof Replacement Site Visit 8/11/2014

- All parties discussed the concrete material, and that the original detail drawings which were used as the basis of Gale's design indicated that the stair material was light weight concrete fill; refer to Image C which is Gale's Sheet AD101, which includes scans of the original design drawing presented as Image D.

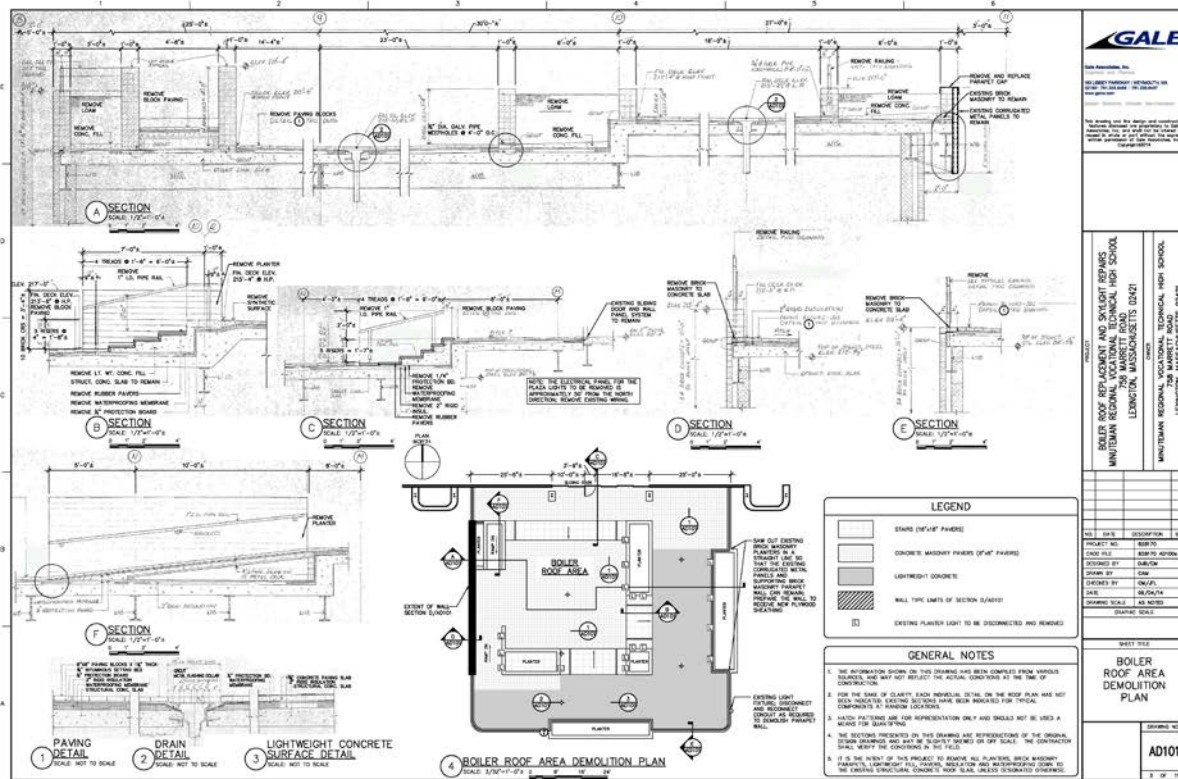


Image C – Gale’s Design Drawing which incorporates excerpts of the original design drawings.

- Gale’s drawing was modified to include the original design details, but incorporated the overburden substrates that were found on the existing roof system; refer to Image F.
- As the existing waterproofing and insulation system extended below the structural concrete stair system, these stairs needed to be removed, or trapped moisture would be present within the new roof system, which would result in moisture drive/condensation which would affect the bonding adhesives used for the roof components.
- Gale discussed the conditions with Minuteman via telephone, and discussed that the structural concrete material needed to be removed to prevent potential future delamination of the roof system.

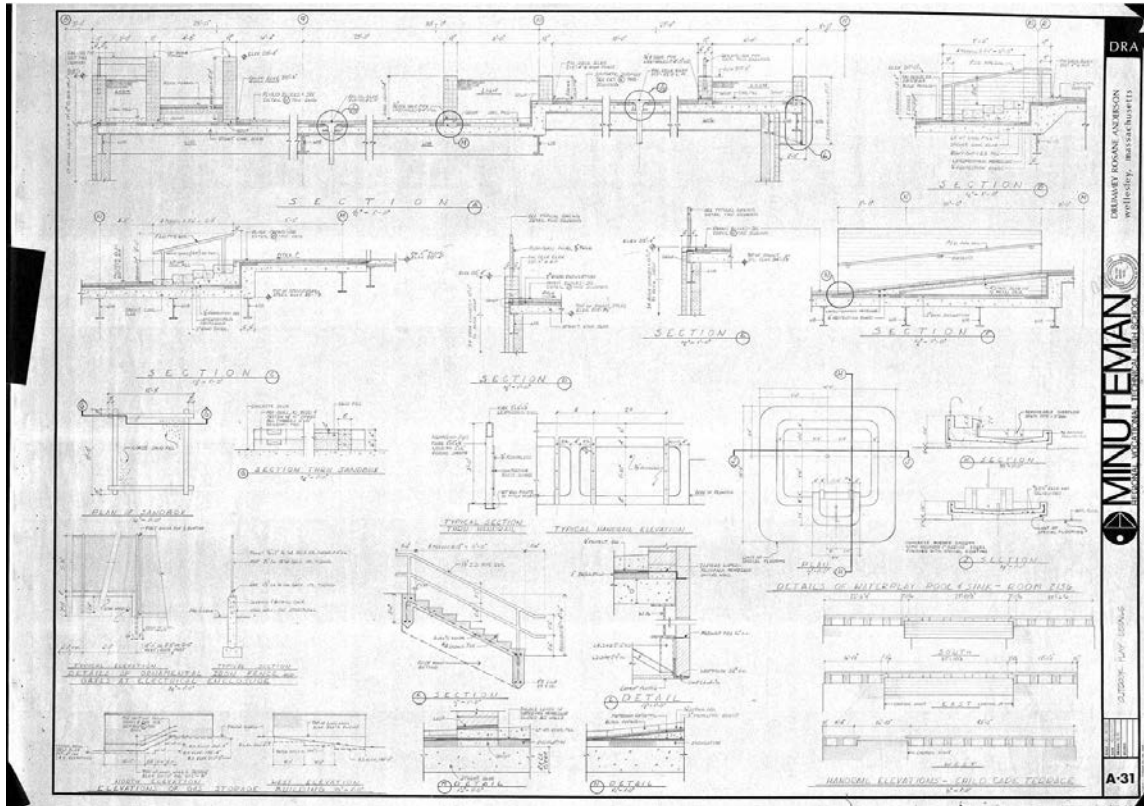


Image D – original design drawing used as a basis for design.

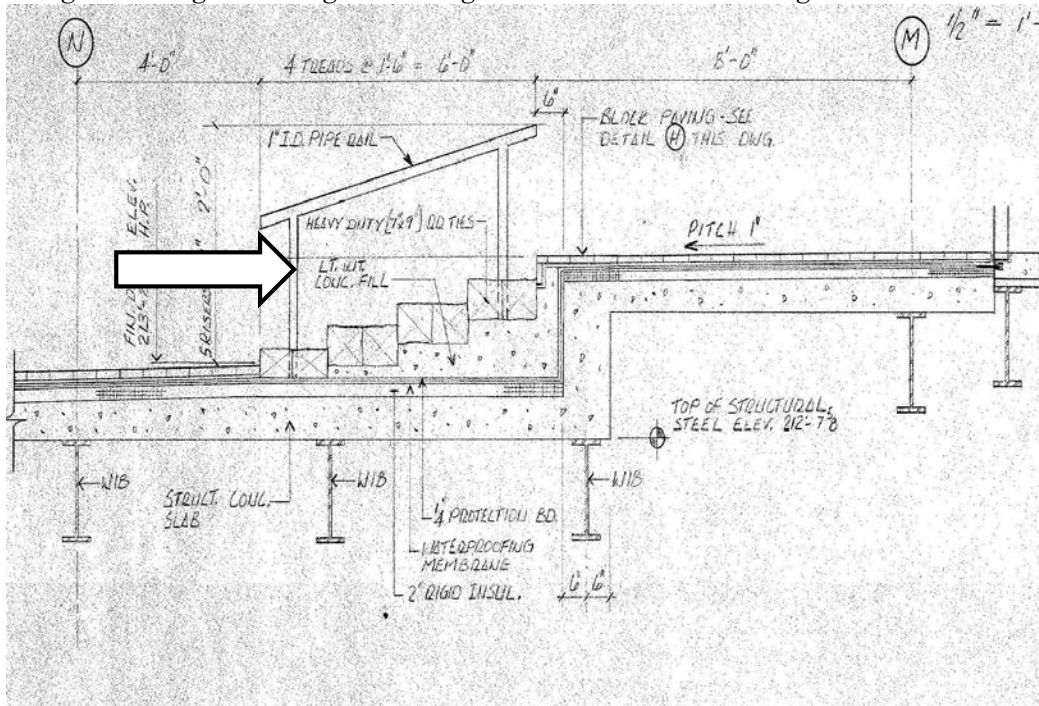


Image E – excerpt of the original building drawing, Section N, which references “Lt. Wt. Conc. Fill”.



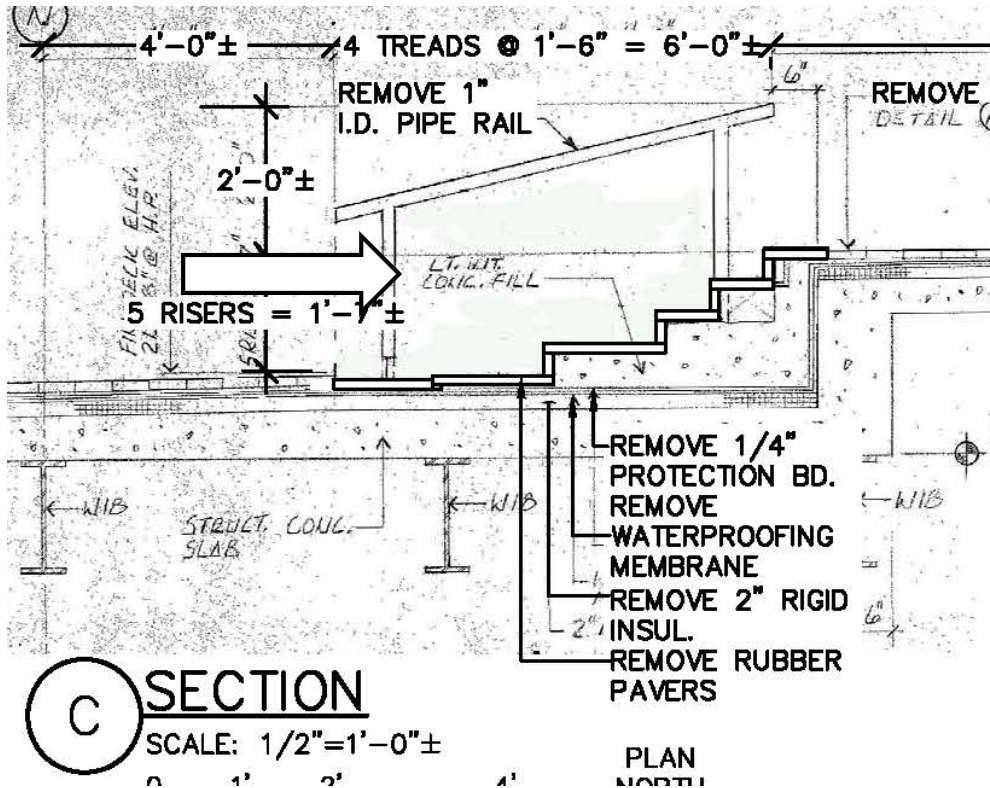
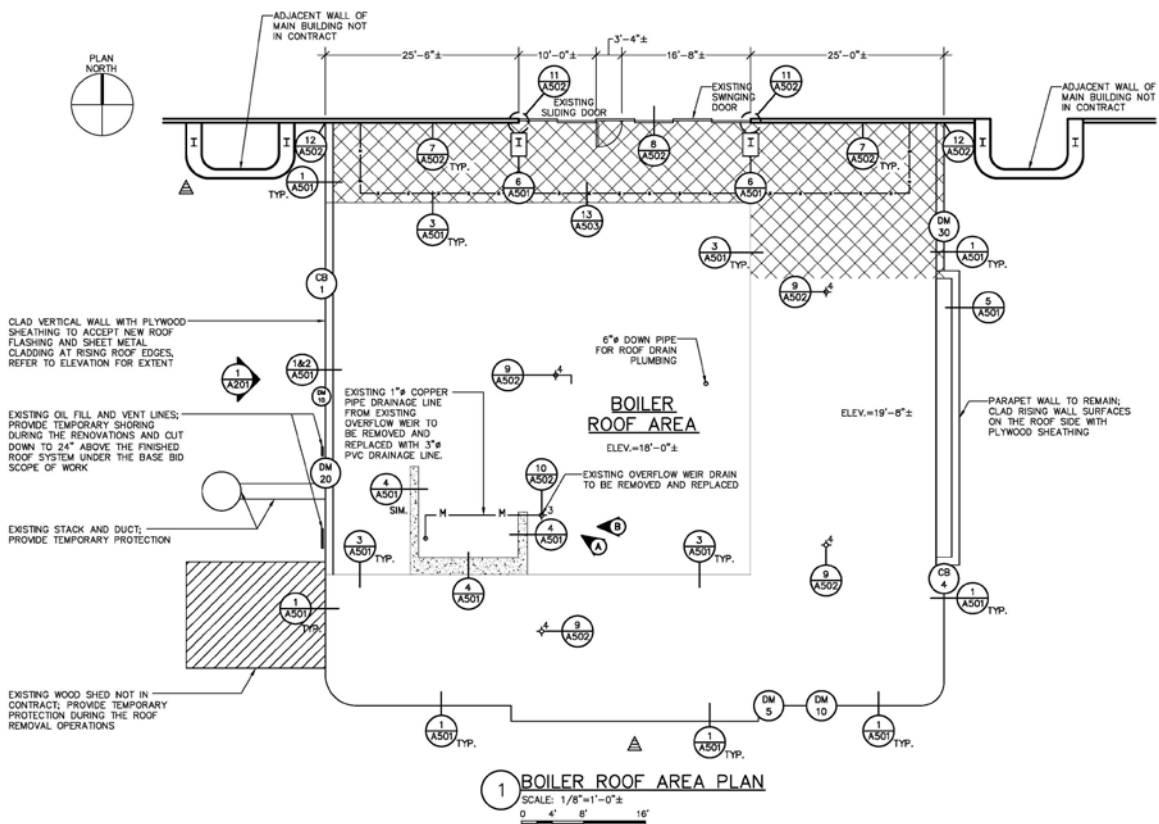


Image F – Gale’s Section C which reflects the original design drawings “Lt. Wt. Conc. Fill”



Minuteman Roof Replacement  
Lexington, MA  
Site Visit  
August 11, 2014



Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

The above issues were noted by Gale on the date/time and at the location indicated. Correction of these issues is the responsibility of the Contractor, as is documentation of the correction, Gale bears no liability for further inspection of the issues identified. This list is not all inclusive and represents only those issues actually observed and noted by Gale personnel while on-site. Gale was asked to observe the foregoing construction elements only, and the absence of notations with respect to any other construction elements neither creates any liability on Gale's part, nor alters the Contractor's responsibility to complete all Work in accordance with the Contract Documents.

We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

CC:

Signed: *Christopher Musorofiti/cm*

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Christopher Musorofiti, RRC  
Project Manager

CM/cm

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To: Mr. Kevin Mahoney	Date: August 15, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Planter Curb Materials</b>		

**Remarks/Observations:**

On Friday August 15, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was to attend the regularly scheduled construction meeting; refer to the meeting minutes of the same date for additional information. This Site Visit report is intended to document the existing conditions that were encountered, which augments the construction minutes. The following persons were on site or spoke with:

- Mr. Kevin Mahoney – Minuteman
- Mr. Mike Clickstein – Minuteman
- Mr. Mario Marques – Capeway Roofing
- Mr. Nevin Medeiros – Capeway’s demolition crew
- Mr. Carlos Daniel – Capeway’s demolition crew

The following items were discussed or observed:

1. Prior to the construction meeting, Gale met with Capeway and Capeway’s demolition crew to review the work progress.
2. The existing concrete roof deck appears to be in sound condition where the existing over burden has been removed; photograph A. Final cleaning of the deck will be required to remove loose dirt/debris.
3. Gale investigated the reported leak location which had occurred through the lower roof slab, into the computer room; photograph B represents the hole through the roof deck which was reportedly sealed with hydraulic cement. Refer to the meeting minutes of this date for additional information concerning interior damages.



Photo A



Photo B

4. Capeway's demolition crew indicated that the hole was a result of the stairway railings extending down, through the waterproofing system, and being secured to the structural concrete slab. This detail is different from that which was shown on the original building drawings, which indicates that the railing was set in light weight concrete fill, above the waterproofing system; refer to Image C for an excerpt of the original building drawing which was used as a basis for the design.

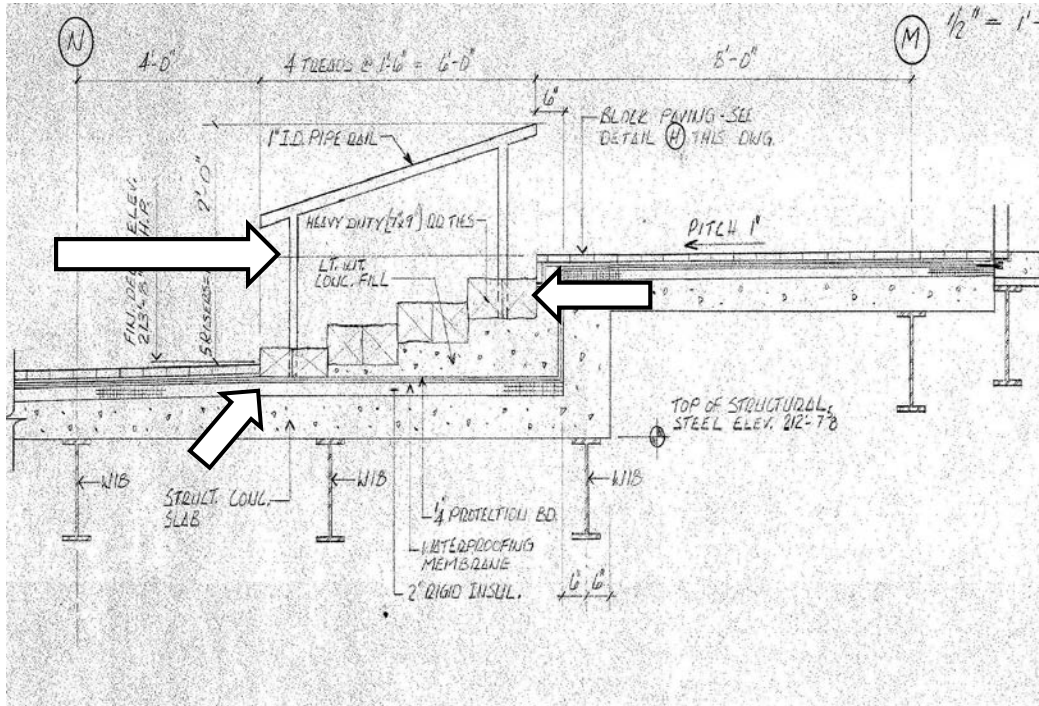


Image C – excerpt of the original building design drawings which show the stair railings being set in “Lt. Wt. Conc. Fill”.

5. Gale was also requested to review the existing planter curbs at the site. During the design phase, Gale reviewed the available structural drawings which were provided to this office, none of which had reference to the above deck plaza components. As such, the architectural drawings were used as a basis of the design. Image D represents one of the original design drawings which were presented to Gale and shows the condition of the plaza deck components of this area.
6. Both Images E and F represent close-ups of the original design sections presented in Image D. Each of the planter walls which extend up, above the plaza deck surface are depicted with the industry standard slanted hatch, which represents brick masonry units which are set atop a layer of grout on the structural concrete deck. The planter walls also represent that there are three wythes of masonry, which is consistent with the dimensions that were presented on the original design drawings, and were used as the basis for the design.



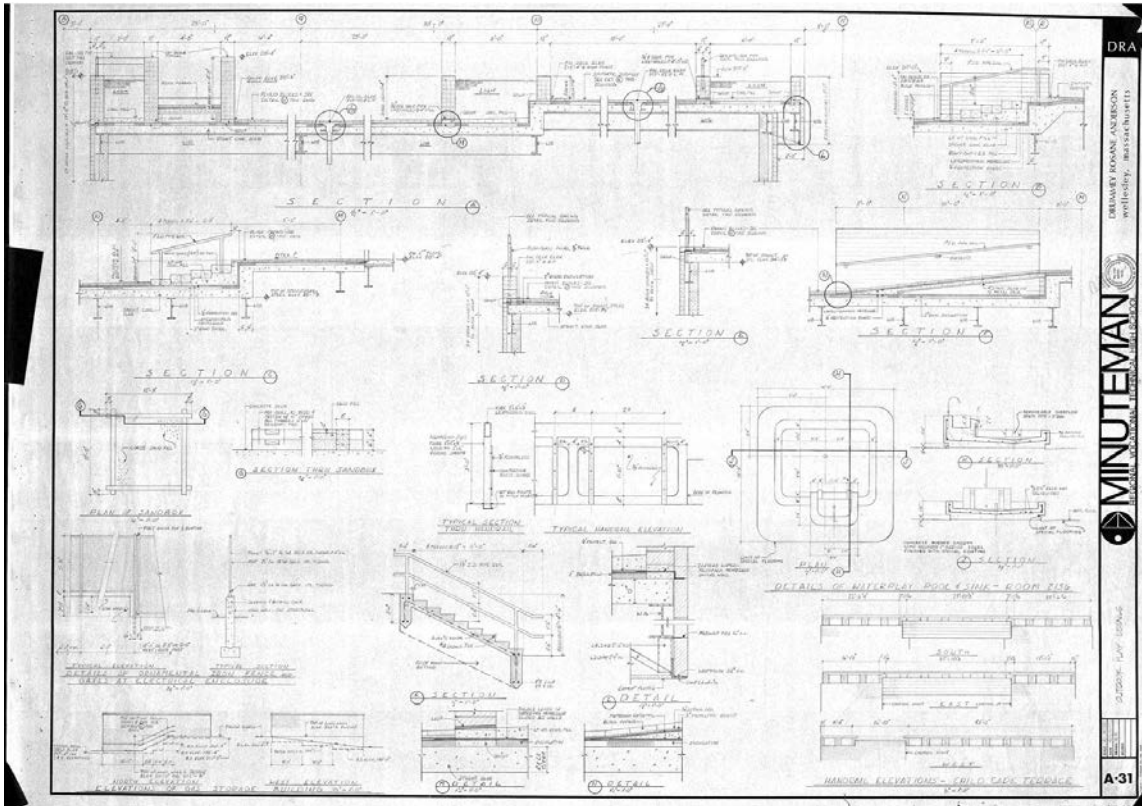


Image D – original design drawing used as a basis for design.

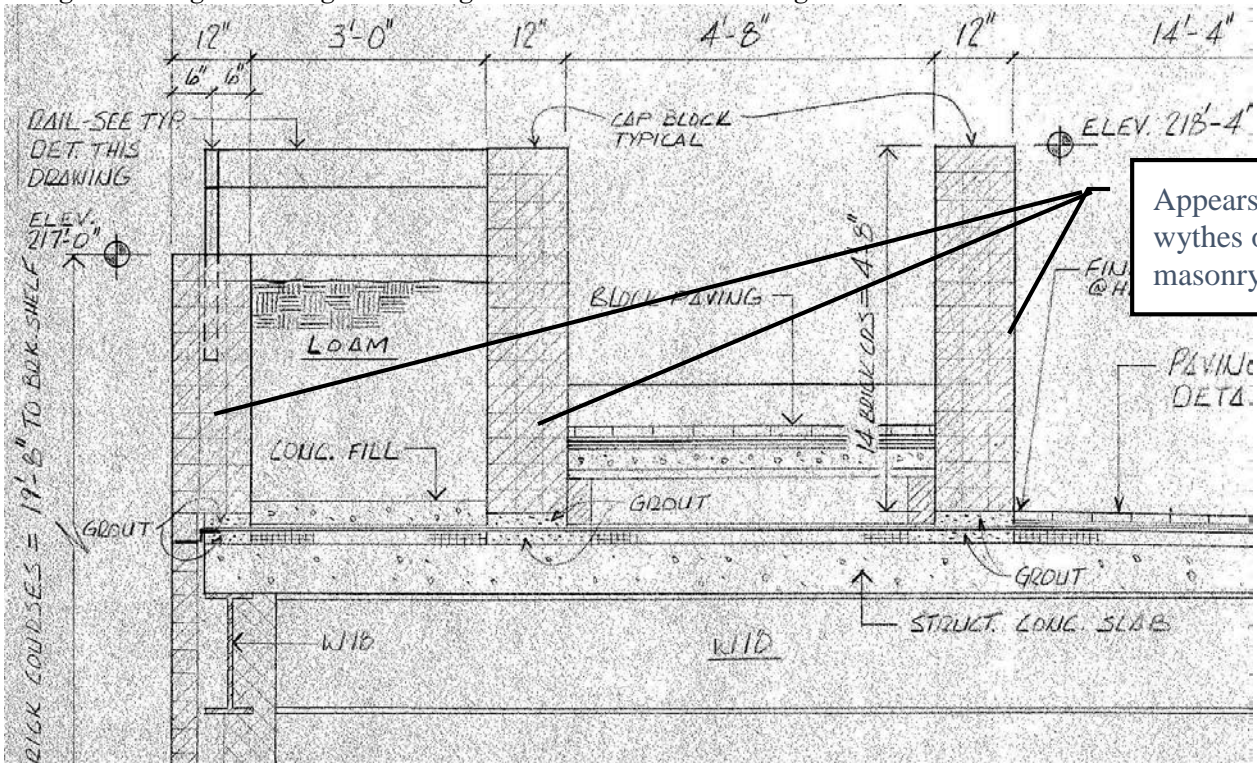


Image E – original design drawing with industry standard brick masonry unit hatching within the planter walls.



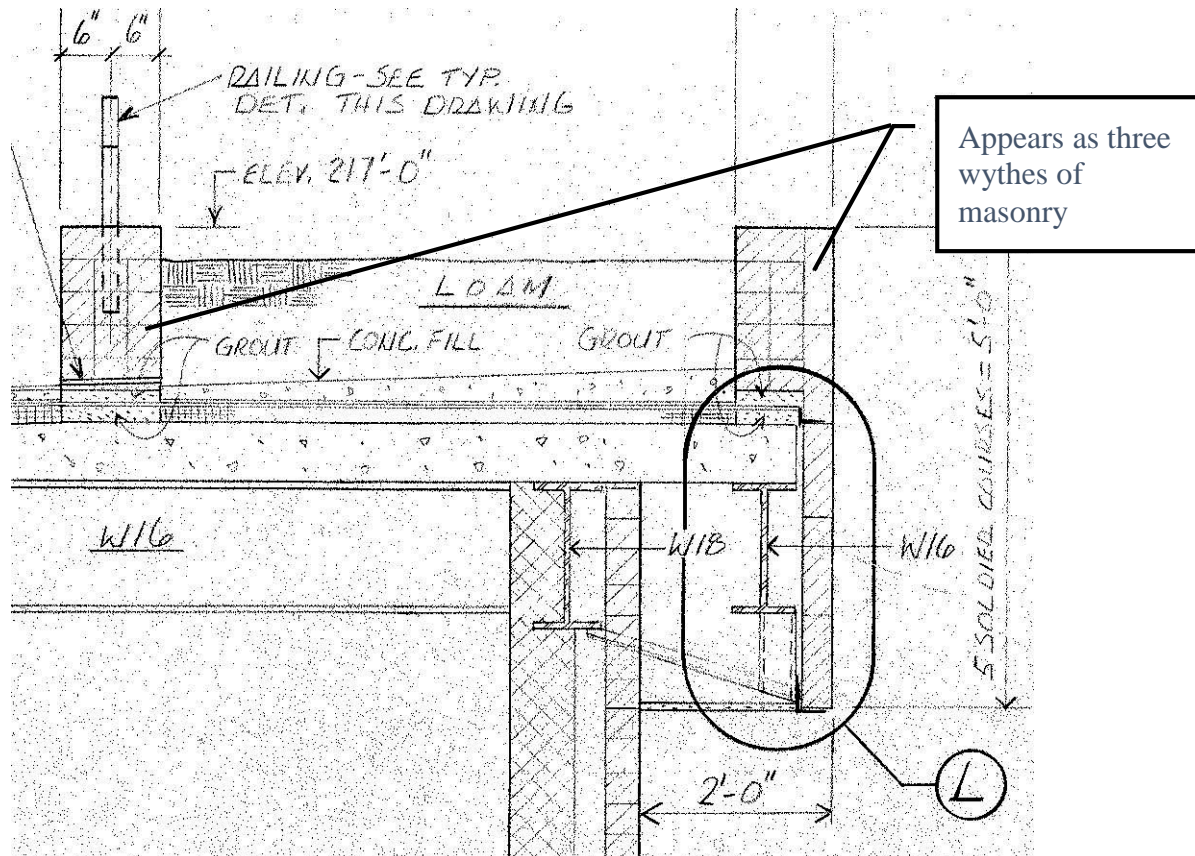


Image F – original design drawing with industry standard brick masonry unit hatching within the planter walls.

- Capeway indicated that upon removal of the top horizontal course of brick masonry, and the exterior wythe which was exposed to the typical walking areas of the plaza deck, a structural concrete curb was in place at each of the planter locations. Refer to photographs G and H.



Photo G

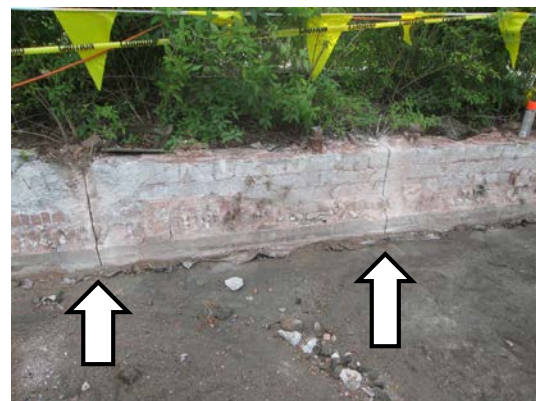


Photo H

- In an attempt to pull the concrete curbs over, Capeway's demolition crew used a concrete cutting saw to provide relief cuts at approximate four foot intervals.

However, they were unable to move these sections with the small mobile cheetah unit that was on site.

9. Capeway's demolition crew used a 90 pound jack hammer on these walls, and found that a significant amount of structural reinforcement bars were placed within these concrete curbs; refer to photographs I and J.



Photo I



Photo J

10. Capeway's demolition crew stated that they had found areas where the reinforcement bar penetrated through the waterproofing membrane, and was set into the concrete roof deck. As the waterproofing extends under the concrete curbs, these materials required removal.

Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

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CC:

Signed: *Christopher Musorofiti/cm*

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Christopher Musorofiti, RRC  
Project Manager

CM/cm

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To: Mr. Kevin Mahoney	Date: August 18, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Displaced Masonry Wall</b>		

**Remarks/Observations:**

On Monday August 18, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was to review the report of the exterior masonry wall around the perimeter of the roof system being unsupported. The following persons were on site or spoke with:

- Mr. Kevin Mahoney – Minuteman (via phone and email)
- Mr. Matt Maclean – Minuteman (via phone)
- Mr. Mario Marques – Capeway Roofing (via phone)
- Mr. Nevin Medeiros – Capeway’s demolition crew
- Mr. Carlos Daniel – Capeway’s demolition crew

The following items were discussed or observed:

1. Gale received a phone call from Capeway which indicated that the existing brick masonry wall around the perimeter of the roof system had become displaced in sections, and did not appear to be laterally supported to the backup wall. This condition was uncovered as the existing steel perimeter rails were being removed. Photograph A shows the initial wall that was the original area of concern.



Photo A

Minuteman Roof Replacement Site Visit 8/18/2014



2. A portion of the brick masonry in this location is originally scheduled to be removed as part of the scope of work, and shown in Image B, which is an excerpt of Gale's original design drawing, Sheet A201. The masonry was to be taken down to just below the existing concrete roof deck, as to allow the new roof system to be installed, and the mortar below the removed areas were to be repointed to stabilize the wall.

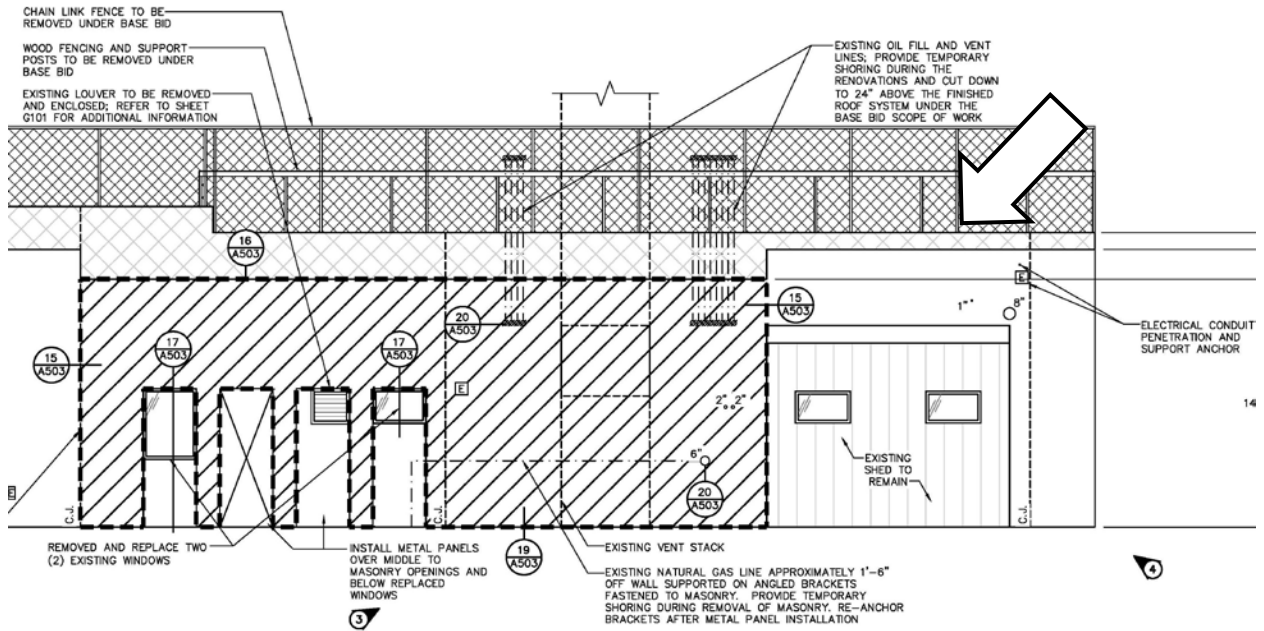


Image B – West elevation. The net hatch references the area to be demolished to complete the roof replacement project; the arrow represents the initial area of concern.

3. Capeway's demolition crew removed the upper limits of the brick masonry down to the designated elevation and found that the majority of the masonry wall in this section was displaced by approximately three inches; photograph C. One section of wall had extended beyond the face of the masonry which had already become displaced; photograph D.



Photo C



Photo D

4. This displacement reportedly occurred as a result of the perimeter rail removal. As can be seen in photograph C, there are some corrugated metal ties which were originally attached to the backup wall, but they are not consistently spaced at 16" on center. The units which were observed in this location had either disengaged from the brick or the backup wall, or were rusted. Please note that corrugated ties are only recommended for interior construction.
5. As portions of this area were designated to be removed as part of the project, and the demolition work which was being performed adjacent to this area was vibrating the masonry wall, Gale directed Capeway's demolition crew to remove these components prior to their departure, as they were a potential fall hazard onto the structure and gas conduit lines below this area.
6. While on site, Capeway's demolition crew indicated that similar conditions were encountered on the plan south and east walls, which were not designated to be demolished. Capeway's demolition crew had field cut the top rails of the units in an attempt to make the units more manageable for the removal operations. They indicated that once the units were cut, the rail could be pulled laterally by approximately 1-1/2" in both directions relative to the plane of the wall; refer to photograph E, which shows the rail in the background in plane with the adjacent rail, and photograph F, which shows the movement.



Photo E



Photo F

7. This movement was reportedly a result of the concrete roof deck slab being cast around the railing on three sides, and either a lack of fastening, or fasteners that had been rusted out. Photograph G shows an area where the concrete roof deck has a notch where the railing had been placed.
8. Capeway's demolition crew indicated that the brick masonry roof edge/parapet cap was easily removed from the top of the wall, as there was no evidence of fasteners into the concrete deck to secure the masonry from lateral movement.
9. Capeway's demolition crew stated that a fabric coated copper flashing was placed intermittently between the concrete deck, and the brick masonry grout layer, which allowed the masonry to be removed easily in these locations; photograph H shows a section of flashing that had been partially removed from the wall.





Photo G



Photo H

10. Gale noted that a fabric coated copper flashing was terminated within the masonry wall at approximately six (6) courses down from the roof deck slab location, and was buried within the brick masonry wall. However, this flashing did not extend out through the face of the masonry. Refer to photograph I. Capeway's demolition crew indicated that the flashing was not consistent or sealed, and there were some holes in the product.



Photo I – fabric coated copper throughwall flashing found approximately six courses below the concrete roof deck elevation.

11. Gale reminded Capeway's demolition crew that as the masonry was pulling away from the wall, that they would be required to provide temporary protection of the throughwall penetrations (conduit, vents, electrical lines, etc.) until a decision was made as to the remainder of the masonry around the perimeter of the building.



12. Gale reviewed the original building drawings, an excerpt is shown in Image J related to the perimeter walls. The exterior wall does show a “darker” line, which could be considered a throughwall flashing just above the roof deck location and under the brick masonry cap units, however, it is not called out or referenced in this, or other drawings provided to Gale for review. Note however, that a darker line from the backup wall, to the exterior masonry wythes had not been shown at the approximate sixth course down, presenting no indication that a throughwall flashing had been present. Please note that the masonry above this dark line was scheduled to be removed as part of this project to allow for the new roof details to be installed.

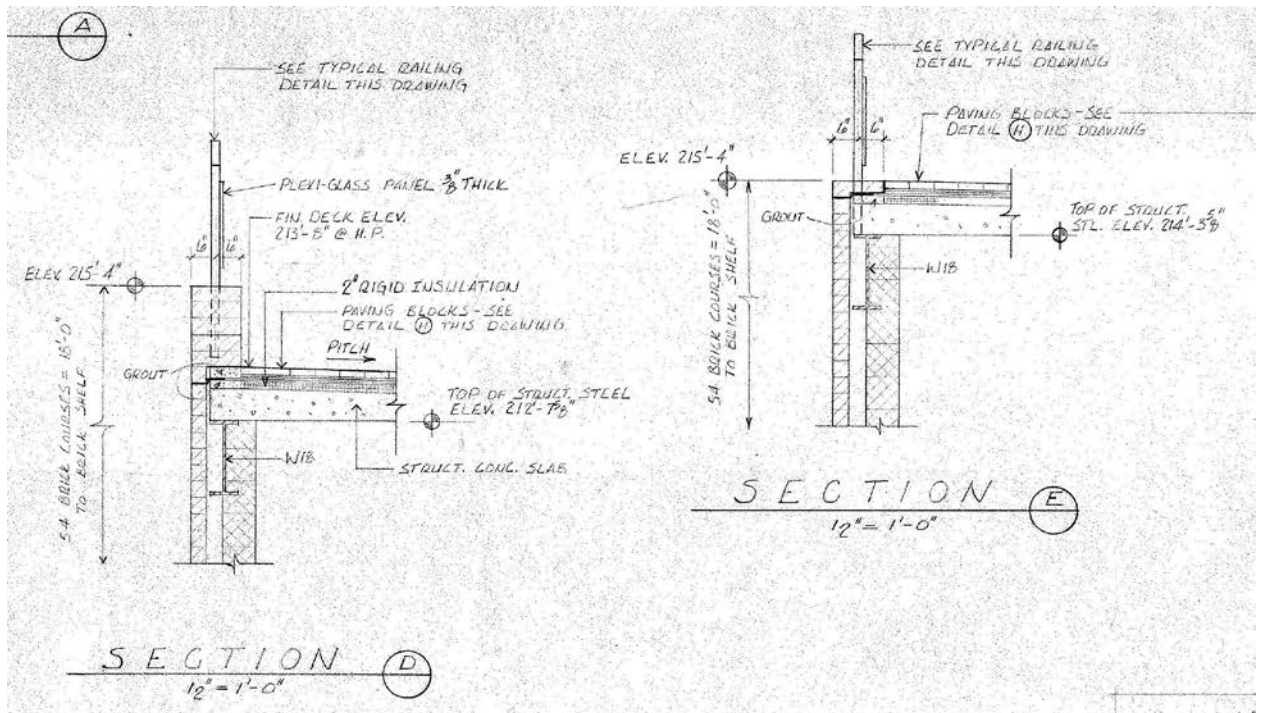


Image J – excerpts of the building’s original design drawings; a throughwall flashing within the wall system was not evident.

13. As indicated in photograph K, the throughwall flashing that was encountered within the wall system cannot be visibly seen from the exterior.
14. Capeway had a delivery of roof membrane and insulation delivered to the site, which is currently being stored within their fenced in area; photograph L.
15. Gale discussed the conditions with Minuteman, and forwarded an electronic mail briefly outlining the findings at the site.



Photo K



Photo L

Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

The above issues were noted by Gale on the date/time and at the location indicated. Correction of these issues is the responsibility of the Contractor, as is documentation of the correction, Gale bears no liability for further inspection of the issues identified. This list is not all inclusive and represents only those issues actually observed and noted by Gale personnel while on-site. Gale was asked to observe the foregoing construction elements only, and the absence of notations with respect to any other construction elements neither creates any liability on Gale's part, nor alters the Contractor's responsibility to complete all Work in accordance with the Contract Documents.

We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

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Signed: *Christopher Musorofiti/cm*

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Christopher Musorofiti, RRC  
Project Manager

CM/cm

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To: Mr. Kevin Mahoney	Date: August 19, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Displaced Masonry Wall</b>		

**Remarks/Observations:**

On Tuesday August 19, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was at the request of Minuteman to review the findings associated with the unforeseen conditions that had been encountered as a result of the demolition operations. The following persons were on site or spoke with:

- Mr. Kevin Mahoney – Minuteman
- Mr. Ed Bouquillon – Minuteman Superintendent of Schools (Superintendent)
- Mr. Mario Marques – Capeway Roofing (Capeway)
- Mr. Nevin Medeiros – Capeway’s demolition crew
- Mr. Carlos Daniel – Capeway’s demolition crew

The following items were discussed or observed:

1. Gale briefly discussed the displaced brick masonry wall conditions, throughwall flashings and potential fall hazard areas with all parties. Capeway’s demolition crew had removed the area which had been vibrating as a result of the other operations on the site; refer to photograph A.
2. All parties reviewed the areas where the existing concrete roof deck slab had been cast around the railing posts (photograph B), and noted that there were limited masonry anchor ties that could be seen in these locations.



Photo A



Photo B

3. Gale discussed the throughwall flashing which was encountered at the roof deck level, as well as within the masonry wall approximately six courses below the edge; photograph C.





Photo C – throughwall flashings found at the plan south east corner of the building.

4. The structural concrete curbs which were found in the planter were discussed; the removal operations were on going at the time of the visit as indicated in photographs D and E.
5. The lateral masonry anchor conditions that had been observed to date were discussed, and the potential concerns for the wall systems below.
6. Minuteman/Superintendent directed Capeway to have the brick masonry around the perimeter of the roof system removed down to the existing throughwall flashing which had been buried in the wall.
7. Minuteman requested that Capeway have four test cuts performed in the lower level brick masonry wall sections to confirm the spacing of the lateral anchor ties. As the anchors should have been spaced at 16” on center both horizontally and vertically to meet the building code installation requirements at the time of construction, Gale

requested that the test cuts be a minimum 16" x 16", exposing the masonry anchors on both sides of the opening.

8. It is anticipated that the test cuts will be opened and ready for review prior to the next construction meeting, which is scheduled for August 22, 2014.
9. Minuteman has requested that Gale document the existing conditions and generate field reports outlining the unforeseen building construction in comparison to the design documents which were used as a basis for design.



Photo D



Photo E

Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

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CC:

Signed: *Christopher Musorofiti/cm*

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Christopher Musorofiti, RRC  
Project Manager

CM/cm

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To: Mr. Kevin Mahoney	Date: August 22, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Wall Test Cut Findings</b>		

**Remarks/Observations:**

On Friday August 22, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was to attend the regularly scheduled construction meeting, and to review the test cuts in the lower elevation walls. This field report is intended to augment the construction meetings and provide clarification to the findings. The following persons were on site or spoke with:

- Mr. Kevin Mahoney – Minuteman
- Mr. Matt Maclean – Minuteman
- Mr. Zahid Kahn – Capeway Roofing (Capeway)
- Mr. Mario Marques – Capeway Roofing (Capeway)
- Mr. Nevin Medeiros – Capeway’s demolition crew
- Mr. Carlos Daniel – Capeway’s demolition crew

The following items were discussed or observed:

1. As directed by Minuteman, Capeway had removed the upper limits of brick masonry around the perimeter of the roof edge, down to the existing throughwall flashing that had been encountered, on the plan east and south elevations (photographs A and B respectfully).



Photo A



Photo B

2. As directed by Minuteman, Capeway had performed four masonry test cuts in the lower elevation walls to review the existing masonry anchor conditions. Capeway’s demolition crew indicated that they found corrugated anchors at the upper limits of the wall, and adjustable pintle and eyehook anchors at the lower limits. Refer to Images C and D, which are internet images of the types of ties found.





Photo C – internet image of a corrugated wall tie (recommended for interior applications only)

Photo D – internet image of an adjustable pintle and eyehook tie

3. The corrugated ties were reportedly rusted where they met the concrete masonry unit backup wall. The adjustable ties were reportedly rusted, or the pintles not in place at several locations; refer to photographs E and F.



Photo E – corrugated ties in place with rust near the limits of the concrete masonry unit wall

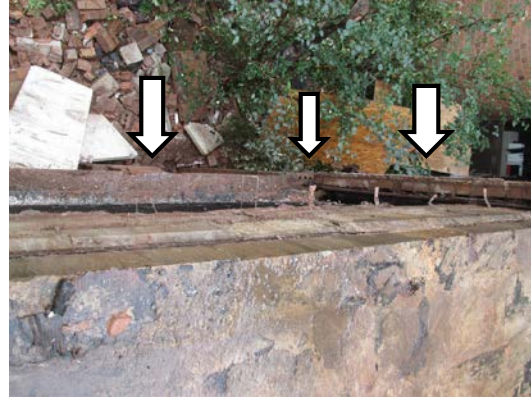


Photo F – corrugated tie at the upper limits, and adjustable ties at the lower limits.

4. Gale reviewed the four test cut locations, two of which are shown in photographs G (west elevation wall) and H (south elevation wall).
5. It appears that the lower elevation walls are constructed differently from the upper elevations, in that the concrete masonry unit backup wall has been coated with an asphaltic dampproofing, a layer of 1-1/2" expanded polystyrene insulation, an air cavity, and then the brick masonry veneer.
6. An electrical conduit was noted within the cavity wall directly behind the south wall test cut, as can be seen in photograph H.



Photo G



Photo H

7. The plane of the brick masonry varies with respect to the backup wall, and ranges from approximately 6-1/2" to 8-1/2"; refer to photographs I and J.



Photo I



Photo J

8. The test cuts revealed multiple different conditions related to the adjustable ties, which ranged from partially engaged pintles, missing pintles, and rusted eyehooks. Refer to photographs J, K, L, M and N.
9. Gale noted that the brick masonry at the upper elevation of the south wall has an air cavity of two inches wide; industry standard for a veneer wall is typically one inch, which was noted in two of the masonry test cuts at the lower elevation; refer to photograph O. This wall appears to have moved laterally out of plane with respect to the rest of the wall system.
10. Capeway's demolition crew indicated that they encountered an electrical conduit in the wall system at the location of the masonry throughwall flashing, which was severely rusted/deteriorated, exposing the electrical wires. It was also noted that the brick masonry cores had standing water in them; refer to photograph P and Q. Minuteman anticipates having their own electrician remove the electrical lines.



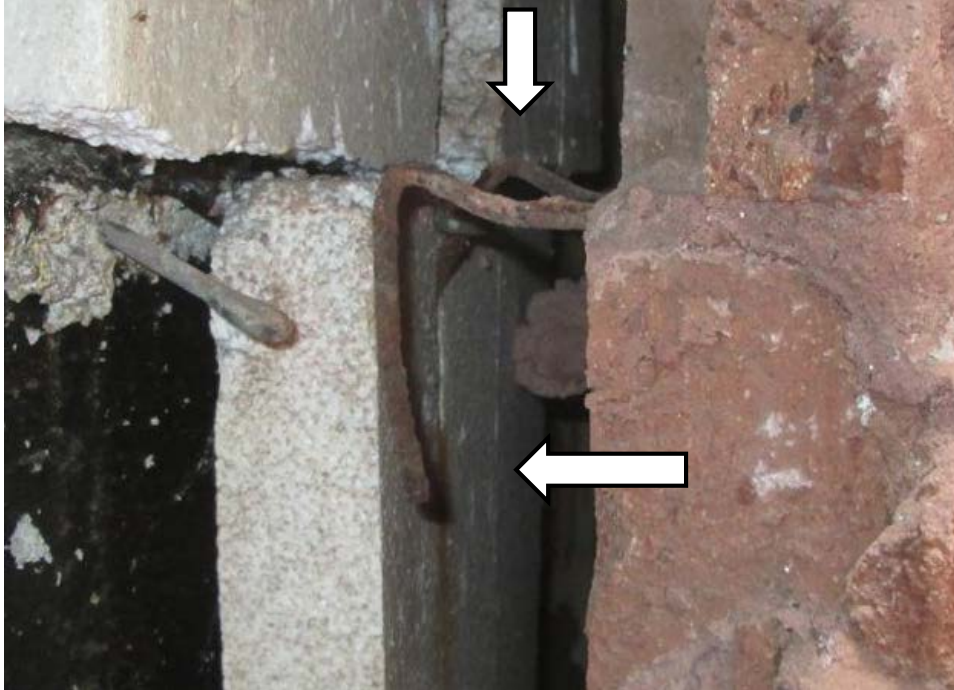


Photo J – West elevation; Note that the pintle in the foreground is not engaged in the eyehook, and that the pintle in the back ground is engaged, but both the eyehook and pintle are bent which can allow horizontal movement.



Photo K – South elevation; location one – east side of test cut; the eyehooks of the adjustable ties were in place in the backup wall, but the pintle was not installed. Note that the mortar joint is continuous in this location, and not disturbed, indicating that the wall anchor was not in place.





Photo L – South elevation; location one – east side of test cut; view showing the eyehook beyond without the pintle.



Photo M – South elevation; location one – west side of test cut; the eyehooks of the adjustable ties were in place in the backup wall, but the pintle was not installed. Note that the mortar joint is continuous in this location, and not disturbed, indicating that the wall anchor was not in place.

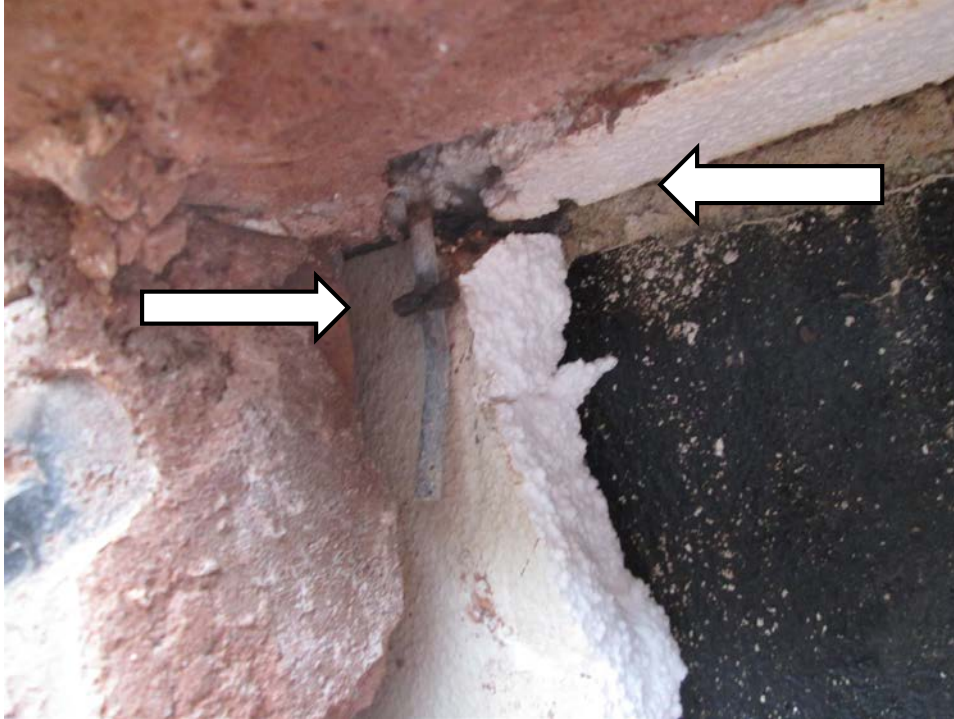


Photo N – South elevation; location two; the pintle extended into the eyehook, but the eyehook was rusted, and no longer engaged to the backup wall. The arrow on the right indicates the location where the shank of the eyehook is, versus the arrow on the left, which is where the “eye” is.



Photo O



Photo P

11. Capeway’s demolition crew was in the process of removing the designated brick masonry components from the west elevation wall as part of the contract work, and noted that the concrete masonry units at the upper elevations were severely deteriorated due to repeat water infiltration into the structure; photographs R and S.





Photo Q – rusted conduit exposing the electrical wires within the cavity wall.



Photo R



Photo S – area where CMU was removed

12. The area where the concrete masonry units were removed (shown in photograph S), exposed the structural steel beam used to support the concrete slab. Rust and exfoliation was observed in this location, likely a result of the repeat water infiltration which had been experienced over the years. It is anticipated that the exfoliation will be scraped and coated with a zinc rich primer prior to the installation of the new wall system.
13. It was noticed that the penetrations through the masonry walls had not been sealed to prevent air/moisture movement through the wall system; refer to photograph T.
14. Capeway is in the process of installing the roof system on the upper roof area, and will continue with the installation in the days that follow; refer to photograph U.





Photo T



Photo U

15. During the construction meeting, all parties discussed potential repairs which should be considered to address the rising wall conditions below the roof edge. Minuteman/Gale have requested proposals from Capeway to perform the following:
- Install helical masonry anchors through the brick masonry into the backup wall; there is approximately 1,662 square feet of area to receive the anchors, which are to be spaced at 16" on center, horizontally and vertically.
  - The installation of plywood sheathing over the upper limits of the exposed concrete masonry unit backup wall, so that a new pan flashing and bronze colored roof membrane could be applied over the removed masonry locations.
  - The installation of a sheet metal wall system, similar to that which has been specified for the west elevation wall, be installed over the removed masonry locations.
  - The rebuilding of the brick masonry with salvaged brick masonry and a throughwall flashing that extends out the face of the wall.

Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

The above issues were noted by Gale on the date/time and at the location indicated. Correction of these issues is the responsibility of the Contractor, as is documentation of the correction, Gale bears no liability for further inspection of the issues identified. This list is not all inclusive and represents only those issues actually observed and noted by Gale personnel while on-site. Gale was asked to observe the foregoing construction elements only, and the absence of notations with respect to any other construction elements neither creates any liability on Gale's part, nor alters the Contractor's responsibility to complete all Work in accordance with the Contract Documents.

We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

CC:

Signed: *Christopher Musorofiti/cm*

Christopher Musorofiti, RRC  
Project Manager

CM/cm

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To: Mr. Kevin Mahoney	Date: September 12, 2014	Gale Job No. 828170 P03
Minuteman Regional High School 758 Marret Road Lexington, MA 02421	Re: Boiler Roof Replacement and Skylight Repairs Minuteman Regional Vocational Technical High School Lexington, MA	
<b>RE: Graphic Arts Wall Condition</b>		

**Remarks/Observations:**

On Friday September 12, 2014 a representative from Gale Associates, Inc. (Gale) traveled to the above referenced site. The purpose of this visit was to attend the regularly scheduled construction meeting, and to discuss the conditions associated with the Graphic Arts wall components. The following persons were on site or spoke with:

- Mr. Kevin Mahoney – Minuteman
- Mr. Matt Maclean – Minuteman
- Mr. Nevin Medeiros – Capeway’s demolition crew

The following items were discussed or observed:

1. Earlier in the week, the Capeway demolition crew started the removal of the existing exterior wall as designated on the contract drawings; refer to image A for the approximate location. The intent of the removal operations was a result of the severe damage to the exterior brick masonry units, which appeared to be caused by water infiltration around the perimeter of the roof system above; refer to photographs B and C for a file photograph of the wall system prior to the removal operations.

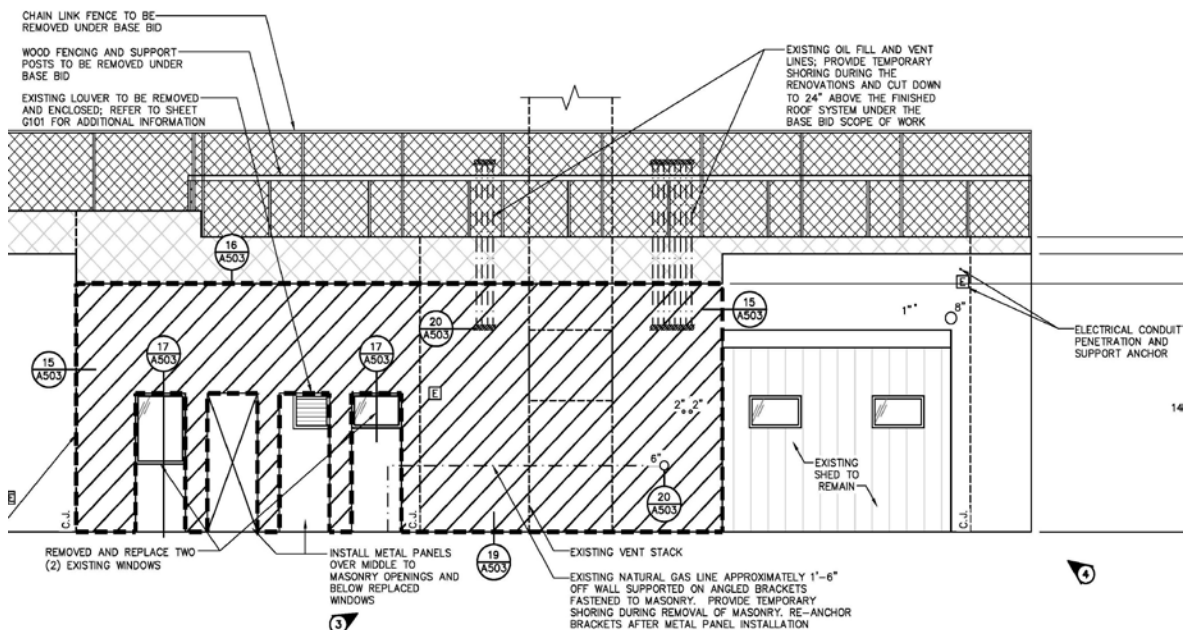


Image A



Photo A



Photo B

2. Upon removal of the brick masonry, it was determined that the concrete masonry units that were used to surround the window/louvered openings, was constructed with two wythes of four (4) inch concrete masonry units (CMU), in lieu of eight inch CMU.
3. The inner and exterior CMU wythes were found to be in distress, with cracks and deterioration noted; refer to photograph C, which was an image taken by Capeway.
4. The existing steel lintels which supported the window and louver frame openings are set on these columns, are not continuous, and could not be easily supported if the individual CMU were to be removed and replaced; refer to photograph D, which was an image taken by Capeway.
5. Based on information provided by Capeway, Capeway's demolition crew, and observed by Minuteman, it appeared that the concrete columns could be pushed approximately one (1) inch, indicating that it was not properly secured, or set in friction against the structural beam above. Photograph E was taken by Capeway and presents the slight lean into the building's interior.
6. All parties acknowledged that the CMU wall did not appear to provide a sufficient backing to support the new exterior wall cladding system which was intended for this area, and as the masonry was bending inward, and required rebuilding, these columns would need to be removed. This resulted in the unsupported masonry above, which was also required to be removed as part of the work.
7. As the entire wall would be opened when the existing CMU columns were removed, it was determined that the installation of replacement CMU block would provide a solid substrate for the new wall cladding system, as well as maintain the appearance of the existing interior CMU wall. Capeway's masons are proceeding with the CMU installation, providing reinforcement bars at approximately four feet on center, to support the wall; refer to photographs F and G.





Photo C – deteriorated CMU



Photo D – lintels are not continuous, and rest on the CMU



Photo E – existing column leans inward, towards the building.





Photo F – wall being rebuilt.



Photo G – wall being rebuilt.

Please be reminded that the recommendations generated by this office are based on the current industry design standards, and Gale's understanding of the design drawings and specifications. Any potential schedule or cost implications associated with these recommendations, are to be brought to the Owner's attention prior to implementation.

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We trust this information serves your needs at this time. Should you have any questions or comments, please do not hesitate to contact me at this office.

CC:

Signed: *Christopher Musorofiti/cm*

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Christopher Musorofiti, RRC  
Project Manager

CM/cm

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