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Environmental Strategy & Engineering  
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May 16, 2019

GeoInsight Project 8928-000

Philip Wartel  
City of Greenfield  
Procurement Office  
14 Court Square  
Greenfield, MA 01301

RE: Pre-Demolition Survey - RFQ 19-00  
188 Main Street  
Greenfield, MA



Mr. Wartel:

GeoInsight, Inc. (GeoInsight) prepared this letter report to describe the general findings of a pre-demolition survey performed for the above-referenced project, and to reference photographs and video of the areas observed during the survey. The pre-demolition survey activities were performed in accordance with our approved Scope of Services dated August 14, 2018 and included obtaining permission from the selected abutting property owners to enter their properties for perform the survey. To prepare for the pre-demolition survey GeoInsight performed an initial site visit on August 8, 2018, and reviewed relevant information available on-line and information provided by the City.

### **PRE-DEMOLITION SURVEY ACTIVITIES**

On April 12, 2019, GeoInsight performed a pre-demolition survey of several properties near to the building at 188 Main Street (the site), which the City plans to have demolished in the near future due to its existing poor structural condition. Specifically, surveys were performed: inside and outside of the buildings located at 176, 180, 186, 192 and 200 Main Street; along the sidewalk and street areas in front of and adjacent to the site; and along a section of the railroad right of way (RR ROW) located adjacent to the site (refer to Figure 1).

The pre-demolition surveys consisted of: visually viewing observable surfaces for the presence of significant defects (furniture, shelving, wall hangings, floor coverings, stored

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objects, etc., were not relocated to expose and examine the surfaces behind such items); collecting still photographs of certain representative observed defects; taking video recordings of certain areas; setting crack gauges and initial monitoring points at various critical locations; performing elevation and position surveys of features and monitoring points in the sidewalk, in Main Street, and in the RR ROW; and conducting brief interviews regarding existing conditions with owners, tenants, or representatives of the subject survey areas. The generalized observed conditions are described herein, and still photographs and videos are included with this submittal in an electronic format (universal serial bus flash drives).

## **PRE-DEMOLITION SURVEY OBSERVATIONS**

### **176 Main Street – Moldavite Dreams**

Moldavite Dreams is a store that carries a wide variety of women's clothing and clothing accessories, jewelry, rocks, crystals, incense, sage, tapestries, statues, gifts, handmade bath products, oils, greeting cards, handmade items and other gifts. The store is a single story building with a basement and we were given access to both levels.

Basement Level: The basement was mostly unfinished and dimly lit, and contained significant shelving and stored materials that made observations difficult. The basement contained a middle longitudinal wall running north to south. Utility piping and wiring was present in the basement. The basement contained enclosed bathrooms (one functional and one not). Review of only small sections at a time made it challenging to get a larger assessment of conditions that included more continuity. The basement had a concrete floor and a combination of concrete, brick and mortared stone walls, with numerous inner wood partitions. Overall, the condition of the basement was observed to be fair to good.

Some specific conditions observed included:

- multiple small (hairline) cracks in the concrete floor but limited differential surfaces across the cracks;
- several areas of spalling of the concrete floor;
- a few small (hairline) cracks in stone and brick walls;
- a crack gauge was installed across one crack in a mortared stone wall;
- a few cracks were observed at the tops of doorways;
- the collection of some debris (paint chips and degraded mortar) was observed where the walls met the floor; and
- several locations were present where holes and oversized penetrations led to adjacent areas.

On the ground level floor, most of the surfaces appeared dated but otherwise were generally square and plumb based upon visual assessment and use of a digital level.



Specific observed conditions included:

- existing vertical cracks were noted in most of the upper panels just below the ceiling;
- the ceiling was covered with tin tiles that exhibited obvious separation from the ceiling at numerous locations;
- some ceiling tiles appeared rusty;
- general separations of molding and joints between walls and ceilings; and
- one large diagonal crack in a side storage room wall.

Regarding the numerous penetrations in basement walls, the tenant informed us that rats have been observed in the basement. The tenant also informed us that there was reportedly a basement room between 176 and 180 Main Street that she did not have access to: she identified what she believed was the door to the room, but it was not possible to assess whether the door simply went to the adjacent space or whether there was a room unaccounted for.

Refer to the 176 Moldavite folder on the included USB flash drives containing digital photographs and video of interior first floor and basement areas.

### **180 Main Street – Copy Cat Printers**

Copy Cat printers is printing and copying business that provides a wide variety of standard and customized digital and offset printed materials in widely varying sizes, as well as a number of business support functions. The store is a single story building with a basement and we were given access to both levels.

Basement Level: The basement was unfinished and dimly lit, and contained a small amount of stored materials. Utility piping and wiring was present in the basement. The north end of the east basement wall contained doorway into a small room that appeared to be located at the north end of the 186 basement. The basement contained an enclosed bathroom. The basement had a concrete floor and a combination of concrete, brick and mortared/stucco-coated stone walls, with one area where wood was used to fill in a previous opening. Overall, the condition of the basement was observed to be good.

Some specific conditions observed included:

- a few multiple small (hairline) cracks in the concrete floor but limited differential surfaces across the cracks;
- a few small (hairline) cracks in stone and brick walls;
- gaps were present in trim and in the finished surfaces of the bathroom;
- a large crack was present in the stucco of a portion of the mortared stone bench wall underlying a brick wall;



- a crack gauge was installed across one larger crack in a mortared stone wall;
- the collection of significant debris (paint chips and degraded mortar/stucco) was commonly observed where the walls met the floor; and
- several locations were present where holes and oversized penetrations led to adjacent areas.

On the ground level floor, the surfaces were covered by either carpet, wallpaper, or suspended ceiling.

Specific observed conditions included:

- the first floor walls were covered with a wallpaper that prevented viewing of the substrate;
- the floor did not exhibit areas of significant differential surfaces;
- The surfaces appeared generally square and plumb based upon visual assessment and use of a digital level;
- we did not notice significant deformations of the wall surfaces; and
- the suspended ceiling appeared flat and the "T" beam suspension tracks appeared straight and even.

Refer to the 180 Copy Cat folder on the included USB flash drives containing digital photographs and video of interior first floor and basement areas.

### **186 Main Street – Opus**

Opus is a small store selling hand-crafted gifts. The store is a single story building with a basement and we were given access to both levels. This store and basement are directly adjacent to the site.

Basement Level: The basement was unfinished and dimly lit, and contained a moderate amount of stored materials. Utility piping and wiring was present in the basement. The basement contained an enclosed bathroom. The basement had a concrete floor and a combination of concrete, brick and mortared stone walls, with one area where wood was used to fill in a previous opening. The east basement wall notable in that it consisted of brick built on top of mortared stone and the height of the stone portion stepped up to the south (the front of the store). Overall, the condition of the basement was observed to be good.

Some specific conditions observed included:

- numerous cracks hairline to moderate cracks were present in the concrete floor and differential surfaces were present across the floor cracks;
- a few small (hairline) cracks were present in the stone and brick walls;





- GeoInsight installed a crack gauge across one larger crack in the south end of the east mortared stone wall (nearest to the site);
- the collection of significant debris (paint chips and degraded mortar/stucco) was commonly observed where the walls met the floor; and
- the east wall was observed and measured with a digital level to be plumb.

On the ground level floor, the surfaces were covered by either carpet, sheetrock, a small area of wallpaper, or suspended ceiling. The first floor walls were also partially hidden by shelving. Observable areas did not indicate evidence of obvious defects.

Specific observed conditions included:

- the first floor walls were covered with a sheetrock or wallpaper that prevented viewing of the substrate;
- the floor did not exhibit areas of significant differential surfaces;
- walls and shelving appeared straight and uniform based upon visual observations and use of a digital level;
- we did not notice significant deformations of the wall or floor surfaces;
- the suspended ceiling appeared flat and the "T" beam suspension tracks appeared straight and even; and
- there was one moderate diagonal crack observed in the wall above a door in the rear office.

Refer to the 186 Opus folder on the included USB flash drives containing digital photographs and video of interior first floor and basement areas.

### **192-200 Main Street**

The 192 to 200 Main Street spaces were vacant at the time of GeoInsight's pre-demolition visit, but we understand they were previously used as clothing stores. The two spaces are long and narrow and are situated above the abutment and arched portions of the railroad bridge. Both of the spaces are single story buildings with basements and we were given access to both levels. The basement areas were adjoining and were both unfinished and lighting was not operable. Utility piping was present in the basement. The basement had a concrete floor except for the northeast portion (which extended further east than the southern side and was soil) and walls that were primarily concrete, but also included some brick (northeast wall) and mortared stone (north wall and northwest wall). The north basement wall was notable in that it consisted of large mortared stones that may be the back sides of stone visible in the bridge abutment facing. The southern approximately 10 feet of a portion of the basement extended underneath the Main Street sidewalk and consisted of a concrete ceiling (this extent of this area is visible by viewing the sidewalk surface). A middle cast-in-place concrete wall extending east to west appeared to be the





foundation for the south walls of the building spaces above. Overall, the condition of the basement was poor.

Some specific conditions observed included:

- there were significant square joint cracks in the slab of the southwestern portion of the basement that were vertically displaced up to approximately 1 inch relative to another;
- the southwest portion of the floor in the area of the joint crack sounded "hollow" when struck and at least 8 inches of void space was present based upon inserting a thin wire in the joint crack;
- there was evidence of water intrusion in the southern portion of the basement;
- the walls appeared to be slightly out of plumb;
- the southwest basement ceiling slope down slightly to the south (consistent with the sidewalk slope at the ground surface);
- the western portion of the ceiling had a significant crack in it that was discolored from water penetration and likely reinforcing steel rust, and a crack gauge was positioned across the crack;
- another portion of the ceiling under the sidewalk exhibited a spalled area where rusted reinforcing was visible;
- in some places, the north fieldstone mortared wall exhibited evidence of some sand coming through the joints;
- there were many extended cracks present in many sections of the basement walls;
- there were very significant diagonal and horizontal cracks in the southern concrete wall that could have originated as poor cold joints or could be cracks that are growing larger due to differential movements;
- several of the large wall cracks/joints exhibited evidence of soil movement through and deposition on the floor under the crack/joint;
- there was a large crack in the west wall (behind the stairs), which is adjacent to site and had evidently be patched with mortar in the recent past, and GeoInsight installed a crack gauge at that location;
- there was a large gap at the bottom the concrete walls in the northwest corner of the southern portion of the 192 Main basement;
- there was a small pile of sand on the floor in the western end of the south side of the basement adjacent to a sewer line that was installed through a transfer cut in the floor slab and we assume they are related;

The nature of the cracks present and the fact that the structure is present on top of a stone arched bridge suggests that there are stress conditions present and/or existing structural defects that may be significantly sensitive to outside forces or vibrations.







On the ground level floor, the surfaces were covered by composite flooring (192) and plywood (200), and sheetrock or paneling on the walls and ceiling. Because the spaces were vacant, the building surfaces were readily observable and indicated fair conditions.

Specific observed conditions included:

- numerous cracks were present in the building finishes, with crack locations typically being observed at joints;
- molding and trim separation from the wall was common in numerous locations;
- the 200 Main Street portion was constructed from a historical horse-drawn street car and exhibited significantly more cracks and water intrusion than the 192 Main Street portion;
- a small bathroom with tile flooring was present in the 200 Main Street portion;
- water intrusion and apparently swollen or rotten wood was observed around a southern window in the 200 Main Street portion and there was standing water on the floor of the eastern end of the space;
- apparent water staining and damage was also present in the ceiling of both sides of the space;
- in certain locations, paint appeared to have been stretched and torn we did not notice significant deformations of the wall surfaces; and
- in general we did not notice significant deformations of the wall or floor surfaces based upon visual assessment and digital level readings.

Refer to the 192-200 Main Street folder on the included USB flash drives containing digital photographs and video of interior first floor and basement areas.

### **176 to 186 and 192 to 200 Main Street Store Fronts**

The store fronts of 176 to 186 appeared to have straight and uniform vertical lines of trim and window borders. Evidence of differential stress in caulking or trim separations was not apparent. Exterior brick surfaces appeared straight and uniform based upon visual observations and use of a digital level, and obvious cracks were not observed.

The store fronts of 192 to 200 appeared to have generally straight and uniform vertical lines of trim and window borders. We did notice evidence of differential stress in caulking around windows and trim, which could simply be from normal temperature fluctuations or from moisture intrusion and swelling of framing/trim. The vertical faces of the two portions of the building were constructed using different techniques, including 200 Main Street being constructed around a former horse-drawn street car. The vertical face of 192 Main Street was generally plumb, while 200 Main Street was generally tipped outward slightly, which may have been an intended architectural feature. Both 192 and 200 storefronts





exhibited trim that indicated evidence of water damage and rotting wood. Exterior trim separation from the building was common.

None of the windows for the 176 to 200 Main Street storefronts exhibited cracks.

Refer to the Storefronts and Rear Walls folder on the included USB flash drives containing digital photographs and video the front facades of the buildings.

### **176 to 186 and 192 to 200 Main Street Rear Walls**

GeoInsight viewed the rear walls of both properties on either side of the site. 180 and 186 Main Street shared a rear brick wall that also had a small wooden deck attached to it to gain access to rear doorways. Portions of the foundation under the brick were visible. The rear wall of 176 Main Street extended to the north approximately 30 feet beyond the neighboring 180 Main Street store footprint, and also included a brick chimney. The rear walls and visible portions of the foundations for these three stores appeared to be in good condition. It appeared that repointing of the bricks had occurred in the past. Several locations were present where previously-existing windows were boarded up or bricked up. We did not observe significant cracks or deformations. There was some evidence of minor efflorescence in a few locations. The walls appeared vertically plumb and uniform based upon visual assessment and use of a digital level.

The rear wall of 192 to 200 Main Street was exposed brick and continuous without any vertical joints, but it appeared that numerous sections were possibly built out of different colored bricks. The exterior wall service appeared to be visually uniform and straight, but many areas of at least surficial mortar loss were evident. This wall begins directly adjacent to the southeast corner of 188 Main Street building. The walls are in contact with each other and it was not apparent whether they were structurally, or at least physically, attached (such as by mortar or at least caulking). The 192 Main Street rear wall located almost entirely above the bridge abutment and the 200 Main Street portion continues above the bridge arch. This appears to be a mostly vertical line of mortar loss in the brick directly above the apex of the arch.

Refer to the Storefronts and Rear Walls folder on the included USB flash drives containing digital photographs and video the rear faces of the buildings.

### **176 to 186 and 192 to 200 Main Street Roofs**

GeoInsight used a ladder to view the roof lines and roof surfaces of the two properties to the west and east of the site. The 176 to 186 roof was a continuously sealed flat rubber roof system surrounded by a short parapet, and had multiple low points were inlets to roof







drains were present to carry roof water downward into assumedly vertical interior storm drain pipes. The rear portion of 176 Main Street that extended beyond 180 Main Street had a similar sealed flat roof, but it was several feet lower than the front portion of that unit. Several HVAC units were present on the roof. These roof areas appeared to be in good condition. The 192 to 200 roof was a shed roof topped with rolled asphalt roofing that sloped gently toward the north without any internal drains systems. A metal frame (possibly for a sign) was present on the roof.

The 188 Main Street roof was approximately 4 feet higher than the 186 Main Street store roof and approximately 10 feet higher than the 192 Main Street roof. Both of the roofs adjacent to the 188 Main Street building appeared to be connected to the side walls of the site building: this condition did not appear to be structural but was likely for the purposes of achieving waterproofing.

The vertical and horizontal alignment of the parapets/roof lines for 176 to 186 Main Street roofs were mostly straight, without evidence of significant deformation or damage. The roofline for 192 to 200 Main Street had a very noticeable low spot in the approximate middle of the building. Refer to the Rooflines and Roofs folder on the included USB flash drives containing digital photographs of roof areas.

### **Railroad Tracks and Bedding**

A single rail line passes under Main Street and the arched bridge. GeoInsight conducted a total station survey of the western rail and also on several points adjacent to the railroad track. The rail surveyed was the one closest to the site, for the purpose of establishing existing conditions in the event site demolition activities were to affect the alignment of the track, rail(s) or ties. The survey consisted of measuring the elevation and horizontal location of the top middle of the rail at relatively closely spaced, marked intervals along the rail. We also surveyed several fixed points on the abutment that will serve as benchmarks not likely to be influenced by the proposed demolition. Points surveyed are indicated in Figure 2.

Visual inspection was also performed of the vertical and horizontal alignment of the rails. Aside from the rails dropping into a slight depression in the vicinity of the south end of the tunnel, the rails and ties looked to be in good to very good condition without obvious evidence of localized depressions or bulges in the ballast. The ballast and ties appeared generally uniform.

Refer to the RR Easement and Railroad Bridge folder on the included USB flash drives containing digital photographs of the railroad track alignment adjacent to the site.



## **Main Street Bridge and Railroad Tunnel and Retaining Wall**

The Main Street bridge that crosses over the railroad consists of a mortared stone arch built in 1847 according to Mass Highway Department records. The tunnel width at the bottom of the arch is approximately 25 feet and the height of the arch is approximately 20 feet above the track. The stones comprising the walls and roof of the arch, as well as the abutments, appear to be large pieces cut and shaped square but with a rough face. The mortared joints of the stones ranged in thickness from approximately 0.25 to 0.75 inches. Approximately 8 feet above the ground, the vertical stone facing on the sides of the arch terminates and was topped with regular brick facing, which comprises the rear wall of the 192-200 Main Street property. Within the tunnel, the underside of the arch appeared to be lined with brick that was skim-coated with a mortar.

The north side of the western abutment is buttressed by an L-shaped dry-laid, fieldstone retaining wall that starts at the abutment then turns west toward the site. North of the retaining wall, a rip rap slope leads from the railroad ballast up to the foundation of the site building. The construction of the dry-laid wall is noticeably different from the walls of the abutment and it is not clear if its actual purpose was to buttress the bottom of the abutment or to facilitate fill placement for the 188 Main Street foundation.

Observations of the bridge/tunnel structure included examining stones for evidence of significant displacement (vertically, and horizontally inward or outward), cracked blocks, loss of mortar, evidence of seepage "daylighting" through the face of the wall, and evidence of soil loss from behind the walls.

We did observe somewhat significant evidence of seepage within the tunnel, and mortar loss between the stones within the tunnel and on the outer north face was common. We did not observe obvious evidence of soil migration from behind the wall. Within the tunnel there were several wall blocks that were cracked, and we noticed several on the north face that were also cracked. Within the tunnel there were many locations where the arched ceiling coating was beginning to spall, had become mostly detached, or was missing.

Refer to the RR Easement and Railroad Bridge folder on the included USB flash drives containing digital photographs of the tunnel/bridge and northwest abutment.

## **Main Street Sidewalks and Street**

GeoInsight surveyed and made observations in a section of Main Street and adjacent sidewalk that was approximately in front of 176 to 200 Main Street. Our survey work included establishing monitoring points: in the sidewalk concrete directly in front of the storefronts; in the top of the granite curb along the sidewalk; and in the asphalt



approximately at the end of parking space striping. We also surveyed several existing features within the area such as manhole covers and some monitoring points on the storefronts.

The sidewalk was generally in good to very good condition with very few cracks. The sidewalk in front of 192-200 Main Street had a wider area of concrete, a different joint pattern and also exhibited several areas of repairs and extensive hairline cracks that could be from how it was cured or could be from flexural stress. Most sidewalk joints were tight and even, but there were several locations where an adjacent panel was slightly higher than another and a mastic caulking had been injected into the joint to presumably lessen the severity of the lip. The curbing and brick border were generally in fair to good condition: a few pieces of curbing were slightly out of alignment vertically and some areas of brick were slightly heaved or slightly depressed compared to surroundings.

As described previously, the sidewalk in front of 192-200 Main Street contains a basement space below it. We understand that there is some concern that the sidewalk directly in front of the site also may have a basement below it. Based upon our observation of the south basement wall of the site, there did not appear to be any access into a basement area further to the south (which would be under the sidewalk); however, in the southwest basement area of 192 Main Street, there was what appeared to be a newer conduit box attached to the west wall, suggesting at least that the space on the other side of the basement was used for a conduit connection, or it could be the electrical connection that serves the adjacent street lamp.

Main Street pavement appeared in fair to good condition. Relatively moderately-spaced block cracking and connected occasional longitudinal and transverse cracking was common. Some isolated areas of possible fatigue/"alligator" cracking were also present. The pavement surface appeared relatively longitudinally even but slight rutting was present in the transverse direction. Several isolated areas of patching were observed.

Refer to the Sidewalk and Main Street folder on the included USB flash drives containing digital photographs of the street and sidewalk in front of the subject properties.

### **188 Main Street**

Due to the condition of 188 Main Street and the fact that the building is going to be demolished, GeoInsight did not conduct a pre-demolition survey of the building. However, we did examine the vertical connectivity to adjacent spaced, viewed the exposed east side wall and rear wall, and briefly entered the basement through a hole in the east wall.





Based upon our observations, we observed that:

- numerous temporary vertical support posts had been installed in the basement;
- the inside of the east foundation wall had been excavated from within the basement possibly in an attempt to relieve pressure on the foundation wall and make repairs to the foundation;
- the south basement wall was mortared stone and there was not any obvious evidence of a connection to space under the adjacent sidewalk;
- cracks were evident in the southern foundation wall and it appeared that portions of the base of the wall were partially undermined;
- a portion of the southwestern quadrant of the basement was a crawl space;
- eastern wall studs were rotten and giving way under vertical loading;
- eastern foundation wall was mortared stone with a concrete topping beam, and was leaning outward significantly (approximately 8 degrees from vertical);
- numerous small and several very large and cracks were evident in the eastern wall;
- the rear northern foundation wall was also mortared stone and exhibited significant cracking; and
- the stucco exterior coating of the building exhibits significant evidence of being under obvious stress based upon the cracking and separation from underlying walls.

Refer to the 188 Main folder on the included USB flash drives containing digital photographs of the site building exterior and basement.

## **SUMMARY FINDINGS AND RECOMMENDATIONS**

The condition of the site building warrants significant concern. The building should be posted to be structurally unsafe area and efforts made to prevent unauthorized entry. The site building is currently relatively open to the elements on the east side and significant water intrusion into the basement could further destabilize the eastern foundation wall. It would be beneficial to prevent precipitation from entering the basement if possible and safe. The installation of temporary transverse interior cross bracing could be employed to shore up the basement outer wall to some degree, but its installation would be dangerous. Depending upon the schedule for demolition, the City should consult with a building shoring or demolition contractor to evaluate whether it would be feasible and safe to install either temporary outside or inside bracing.

The properties and areas in the immediate vicinity of the site that were the subject of this pre-demolition survey, all have existing defects. The neighboring properties (i.e., the bridge abutment and arch, 192 to 200 Main Street, and 186 Main Street will be moderately vulnerable to potential damage from demolition activities due to their age, existing condition, construction materials, and proximity to the site. GeoInsight believes that careful, controlled deconstruction of the site building will pose only minimal risk, if any, to the



surrounding buildings. Strong vibrations and lateral loads in particular would pose a significant risk to existing foundations and finishes.

In particular, the exact interaction of the site foundation with the bridge abutment wall/192 Main Street basement rear wall is currently not evident and similarly, it is not yet apparent if the western site foundation wall is completely independent of the eastern foundation wall of 186 Main Street. Therefore demolition operations should be prepared to temporarily preserve the integrity of:

- the south end of the site's existing east foundation wall;
- the site's south foundation wall; and
- the site's entire western foundation wall; and
- soil currently positioned against those walls within a 1H:1V zone from the top of the soil to the base of the soil.

The temporary suspension of demolition progress will allow a detailed evaluation of the structural/geotechnical interactions of these building components and facilitate field decisions about whether all or some portions or none of these walls should be disturbed. GeoInsight will be prepared to provide close observations and input at that juncture.

Demolition planning for the site should include the following considerations:

- operations should be conducted in a manner that prevents any large vibrations;
- operations should not exert any lateral loads to the 186 192 Main Street building foundation or first floor, the 192 Main Street building foundation or first floor, or the railroad bridge abutment;
- the site building is at least superficially connected to the 186 and 192 Main Street building at their roofline and those connections must be severed prior to demolition;
- the demolition operations must provide very close control of debris to prevent any materials from being deposited in the railroad easement;
- the contractor must be made aware that close coordination of its operations with GeoInsight's monitoring during demolition will be required;
- the location of the site in the downtown will require careful establishment of a work zone to control pedestrians and traffic in the vicinity;
- demolition activities may mobilize rodents and cause them to seek other places of refuge, so the demolition contractor should have a rodent control plan; and
- the building should either be cleared of hazardous materials prior to demolition, or the contractor must treat questionable debris as if it contained hazards, including management for potential asbestos containing materials.

Based upon our pre-demolition review of the areas around the demolition project, there are many locations with non-specific, but significant evidence of existing damage, degradation, and defects and/or areas with so many minor defects that it was not practical to attempt to document them singularly. Therefore, GeoInsight recommends that the City provide a copy



of this report and attachments to the owners of the targeted properties, structures, and features addressed by this pre-demolition survey to document our findings in advance. If warranted, GeoInsight could make ourselves available to owners and accompany them in person to point out issues we identified to make them aware of the widespread nature of defects present.

## **BASELINE SURVEY**

Based upon our pre-demolition survey, we do not foresee the need to change our originally proposed scope of installing additional monitoring stations and performing a baseline survey event. We established some monitoring points during our pre-demolition survey, but also identified a number of key locations and cracks to target for the baseline effort. These locations will include the 186 Main Street basement, the 192 Main Street basement, and the north face of the bridge and abutment.

## **LIMITATIONS**

GeoInsight provided the findings and opinions contained within this report based upon an evaluation of conditions described and information referenced, and their relation to proposed demolition. The evaluations described and recommendations made in this report pertain to the specific areas explored and demolition proposed. GeoInsight believes the evaluation described herein was performed in a manner consistent with the services that would have been provided by other geotechnical professionals under similar circumstances. However, given the variable nature of man-made materials and construction techniques, in addition to unknown conditions hidden by existing features, we cannot represent that our assessment of the conditions described herein is exact or complete. Similarly, to the extent applicable, we cannot guarantee that our interpolation between or extrapolation from actual locations to unknown locations is representative of actual conditions. Furthermore, given that certain existing conditions included covered surfaces, inaccessible surfaces, poor lighting, and other practical restrictions, there may be conditions that currently exist (pre-demolition) and that may not have been specifically documented herein or on our photographs or video.

GeoInsight is not aware of whether there is historical geotechnical information and/or anecdotal information regarding the physical relationship of the site with the adjacent structures. Should additional information become available regarding the site or surrounding subject properties/features that is significantly different from that described in this report, or should conditions be found during demolition that vary significantly from those indicated in the information reviewed, GeoInsight should be given the opportunity to evaluate the data and modify its findings and recommendations, if warranted.

This report has been prepared for specific application to the 188 Main Street site and surrounding subject properties and features. No other warranty, expressed, or implied, is  
May 16, 2019






made. In addition, this report was prepared exclusively for the City of Greenfield and its chosen list of recipients for this report. The use of this report by other parties without written consent from GeoInsight is hereby prohibited.

GeoInsight appreciates the opportunity to be of service on this initial phase of the demolition project. If there are questions regarding the pre-demolition survey, please contact us at (603) 314-0820.

Sincerely,  
GEOINSIGHT, INC.

  
Michael C. Penney, P.E.  
Senior Engineer/Principal



Enc.

