MUNICIPAL FACILITIES OPTIMIZATION STUDY

Town of Enfield

Enfield, New Hampshire

April 25, 2019

Barrett Architecture, PC
White River Junction, Vermont

Statement of Purpose and Introduction

In September 2018, the Town of Enfield retained the firm of Barrett Architecture, PC to prepare a ***Municipal Buildings Assessment and Space Needs Analysis***, more commonly referred to as a ***Municipal Facilities Optimization Study*****,** or simply ***MFOS.*** The study was undertaken during the fall of 2018, and the report was completed in March of 2019. This document is the full and final report of that comprehensive work effort.

The purpose of the ***Municipal Facilities Optimization Study (MFOS)*** is to inform the Town of Enfield's political and civic leaders, policy makers, key municipal personnel, as well as public at large, such that long term municipal planning can be of greater value as it concerns municipal facilities and properties, and the related services rendered to the public. It is expected that by being more fully and comprehensively informed, the Town will experience more accurate long-range planning which will lead to improved expenditure of tax-payer dollars, thereby achieving significantly increased long term value of that expenditure over the course of many years.

The directive and scope of the *MFOS*, as per the Town of Enfield's *Request for Proposals (RFP),* dated August 2, 2018, stated the following:

> ***SCOPE OF WORK***
>
> *The Municipal Facilities Optimization Study (MFOS) will encompass a time horizon of at least ten (10) years with a longer look at some items such as staffing projections as necessary. The MFOS Plan must achieve the following objectives:*
>
> *1. Space and use needs analysis. Evaluate current locations and their proximity to other departments and town functions, parking needs, future staffing and growth expectations for the next 10-25 years.*
>
> > *a. Utilize existing facility conditions/deficiencies reports and plans, hours of operations, service area, age of facility, document and archive storage, structural issues, ADA compliance, size (sq. ft.), number of staff, equipment, restrooms, utility costs and parking requirements.*
> >
> > *b. Evaluate existing buildings for needed repairs and maintenance (including ongoing O&M expenses and significant capital project investments) to the structure, HVAC, roof, utilities and develop rough costs for recommended work. This shall also include documenting potential public safety concerns surrounding the Town's existing buildings.*
> >
> > *c. Future facility needs; consider how buildings will need to be laid out to accommodate anticipated future staffing needs; what changes need to be made in order for buildings to function efficiently to meet the current and anticipated future business activities of the municipality; identify shared space potential, workspace, storage, meeting rooms, sustainable buildings and energy reductions, IT and computer equipment.*
> >
> > *d. Review previously developed plans pertaining to the construction of a new stand-alone library and provide an assessment of the proposed design's cost effectiveness and overall ability to meet the anticipated future needs of the library (including meeting*

current best practices/standards and being responsive to changing trends for public libraries).

2. Evaluate duplication of services within facilities and departments and identify pros/cons and recommendations for combined uses (or reasons not to). There may be certain benefits (i.e., construction and long-term operating cost savings, more convenient access/use by residents, etc.) from combining or co-locating facilities over time. While looking at Item 1 above and Item 3 below, the Town is looking for the facts regarding the concept of combine uses (shared or co-located buildings).

3. Evaluate the physical location of Town facilities and departments with regard to their current and potential best use and recommend options for relocation if necessary. The Town offices and library both housed in the 100+ year old Whitney Hall are suffering with lack of modern building features and inadequate work and storage spaces, what are some alternatives for updating, expanding or replacing those spaces. With the service/growth demands within the police, fire and ambulance departments and the relative inadequate layout and age of their buildings, what are the best location alternatives for these emergency services? What are the alternatives and pros and cons to those alternatives?

4. Evaluate existing buildings from an energy use perspective to see what energy efficiency improvement options exist (including use of solar or other renewable energy resources) and whether budgetary savings gained from energy upgrades or newer facilities might help pay for those investments.

5. Evaluate safety and security needs while providing efficient working space and a customer service environment that is friendly, aesthetically pleasing, and efficient.

6. Examine Town owned and other available properties for potential alternative building sites. Evaluate current facility sites for potential renovation, expansion or replacement of existing buildings. Macro plan these sites by offering a sketch of what might fit in terms of building(s), access and parking areas.

7. Develop comprehensive selection criteria (cost-effectiveness being one obvious criterion) and evaluate feasibility of various options using these criteria, prepare an "alternatives analysis" and associated written recommendations.

8. Prepare a phasing / implementation plan, including exploration of possible external funding sources (i.e., federal and state grants) that could potentially help offset the costs of significant building (re)construction projects.

9. Attend necessary meetings and provide final report and presentation of all findings and recommendations.

The body of this report is broken down into three (3) sections as follows.

Section A: General Background Information provides the reader with a brief historic overview of the Town of Enfield, within a regional context. This is followed by a brief overview of the Town's topography and land use – past and present. A third sub-section offers an overview of population, housing, employment and wages, income, and labor force trends – also both past and present. Simply stated, it is vitally important and necessary for the readers of this report to have a working overview of the Town. With this background information, both past and present, it is possible to gain an understanding of the Town's possible future – near and long term.

Section B: Existing Conditions is an evaluation of eleven (11) facilities, land and buildings, that the Town of Enfield presently owns and utilizes for a wide range of municipal purposes. These facilities, named and in the order that they were listed in the RFP, are:

1. Whitney Hall
2. Police Facility
3. Public Works Facility
4. Union Street Fire Station
5. Enfield Center Fire Station
6. Enfield Community Building
7. Depot Street Station
8. Pavilion Building
9. Shedd Street Garages
10. Transfer Station
11. Enfield Center Town House

An integral component of the evaluation of each of the existing facilities undertaken by the Barrett office was a preliminary structural assessment by a consulting structural engineer. As part of this effort, the Barrett office retained the services of Schaal Engineering, P.C., and Timothy L. Schaal, PE. Barrett Architecture, PC has benefitted from a professional relationship with Mr. Schaal for over twenty years, especially concerning older and potentially more problematic buildings. On Monday October 29, 2018, Mr. Barrett and Mr. Schaal jointly made inspections of each of the eleven (11) buildings listed above; and Mr. Schaal then followed up with a written report of his findings as a structural engineer for each of these properties. Mr. Schaal's findings are published in their entirety within the pages of this document.

In addition to examining the architectural and structural condition of each of the eleven (11) facilities, this report evaluates the utility and longevity of each existing property as well as any existing site constraints and considerations. The intent has been to gather information to fully educate both this report's author and, more importantly, its reader to the broadest and fullest extent possible.

Section C: Recommendations is exactly that - a series of recommendations distilled from all applicable information gleaned from the two (2) prior sections.

The Barrett Office, and consultants that were a part of this effort, are pleased to present this report to all potential end users and stakeholders, as touched upon above. We have found the work necessary to compile this report to be both keenly interesting as well as very worthwhile; and we commend the Town for having the initial vision and foresight to have commissioned it. We look forward to having this document play an important and comprehensive role informing and shaping the long-term planning efforts and direction of Enfield, a key and integral town within the Upper Valley Region community.

- Table of Contents –

End of Table of Contents

Section A: General Background Information.

A-1: Historic Overview.

Attempting to predict events yet to come, or foresee needs as the future might dictate, is rarely, if ever, an all-accurate exercise. There are simply too many variables, especially the further into the future one attempts to see. However, when undertaking a study such as this report, it is important to have a clear understanding of how the past shaped the present-day Town of Enfield. If only minimally, it is indeed possible that the past can help to inform us about what the broad contours of the future might look like. Therefore, a brief historic overview is a necessary and important first step in the course of making this report.

The Town of Enfield was chartered by the Royal Governor of colonial New Hampshire, Benning Wentworth, on July 4, 1761, in the name of King George III of Great Britain. That same day Wentworth also chartered the adjacent towns of Hanover and Lebanon on the eastern side of the Connecticut River, and Hartford and Norwich VT on the western side of the River. Over the years, these five charters have been referred to as the *"Middle Grants",* the first towns created within the Connecticut River Valley north of Charlestown and Fort Number Four - a time when New Hampshire laid claim to all lands that today constitute the State of Vermont (the colony of New York also claimed this same land area). Within the next several years additional towns were similarly chartered, both above and below the so-called *"Middle Grants"*, on both sides of the Connecticut River, filling in and around Enfield and the broader region as a whole.

More than two centuries later, we can only speculate as to what factors might have motivated Governor Wentworth when he chose the location of these first of what would total well over two hundred new towns within the broad region of the upper Connecticut River Valley (138 were in present-day Vermont); however, matters of transportation might well have crossed his mind. The White River reaches westerly deep into the Green Mountains before flowing through Hartford VT to the Connecticut River. The Mascoma River, while not possessing a watershed drainage area as large as the White River to the west, nonetheless reaches easterly for a sufficient distance and abuts the broad watershed of the Merrimack River basin in central New Hampshire before reaching the Connecticut River in Lebanon NH. In the 1700's, these waterways and their valleys provided the first conduits of travel for would be settlers, most of whom travelled up the Connecticut River from southern New England. In fact, it was along these waterways and through their associated valleys that the first roads, and later railroads, were constructed.

By the middle of the twentieth century, we had come to refer to this region of the so-called Wentworth *"Middle Grants"* as the *"Upper Valley,"* with Hanover, Lebanon and Hartford at the core. Beginning about 1800, transportation, more than any other single factor, defined and economically distinguished Lebanon and Hartford. While Hanover was never directly defined by matters of transportation such as highways, waterways, and railroads, the decision made in 1770 by the Reverend Doctor Eleazar Wheelock to locate his fledgling school, Dartmouth College, in Hanover, and not forty plus miles further up the Connecticut River Valley, had in fact much to do with transportation.

The narrowness of the Connecticut River at Hanover, which Wheelock realized was suitable for a possible future bridge crossing and was in line with the capitol of New Hampshire to the east, then located in Portsmouth, and Crown Point on Lake Champlain to the west, greatly influenced his decision making at the time. That Hanover was at the head of the mighty and dangerous White River Falls on the Connecticut River (the present-day site of Wilder Dam), was an additional benefit. In those years of early settlement, the only way to move supplies and goods north into the region was on the Connecticut River; and at those falls, rafts had to be broken down and the freight portaged for almost a mile before being re-loaded for the remainder of the trip further north. With the College located in Hanover, transportation costs, Wheelock reasoned, would be less than to a location further up the River at Haverhill or Landaff. These were both locations strongly favored by New Hampshire's Royal Governor John Wentworth II. For well more than two centuries Wheelock's decision to establish his college in Hanover has been of great and lasting benefit to not only Hanover, but to the entire region as a whole.

In 2006 the Enfield Historical Society published their excellent history of the Town of Enfield, titled *Enfield, New Hampshire 1761 – 2000: The History of a Town Influenced by the Shakers;* edited by Nancy Blanchard Sanborn. Reading that history, together with this writer's broad knowledge of regional history, it becomes clear that much of what influenced the historic development of Enfield were various periods and patterns related to transportation, combined with the dominating features of Enfield's natural topography.

Enfield was initially chartered in 1761, and during the early years after, there occurred a series of events related to the Town's charter, as well as adjustments to its overall boundary lines with several of the adjacent towns. Once these matters were put to rest, the geographical area of Enfield came to contain 40.3 square miles, or 25,792 square acres of land area. Of this total land area, 2.9 square miles (1,856 square acres) is made up of standing water bodies – Lake Mascoma, Crystal Lake, and Spectacle, Smith, and George ponds being the largest and most notable. And, in addition to these larger water bodies, the Town is well-watered with the Mascoma and Knox rivers, in addition to numerous smaller flowing brooks.

The date of the earliest settlement in Enfield appears a bit difficult to pin down; however, by the early 1770's permanent settlers were known to be in Enfield, and soon more followed. By the time the first National census was taken in 1790, Enfield could boast of 724 residents. Also, by that time Enfield was part of Grafton County, first organized in 1771. By 1797 Grafton County was comprised of 50 towns and 17 "locations", with a total of 23,093 inhabitants scattered throughout the county. Enfield remains one of the three southerly most towns in Grafton County; the other two being Lebanon to the west and Grafton to the east.

Much like many towns within the upper Connecticut River Valley that were developing during the last three decades of the eighteenth century, initial settlement within Enfield was at first lightly scattered with no discernable pattern. As so often happens, it was the establishment of more clearly defined transportation routes that began to give shape and pattern to the Town's development. In Enfield's case, it was the establishment of regional transportation routes and means that would have the greatest impact upon settlement patterns well into the twentieth century.

From the time that settlement began within the Middle Grants, and the location of Dartmouth College in Hanover in 1770, Royal Governor John Wentworth II recognized the need for a series of east and west running roads. These roads would cut through the dense forested wilderness and link up the Connecticut River and Merrimack River Valleys. But with the outbreak of the

American Revolution in the spring of 1775, and the subsequent collapse of the colonial state government in Portsmouth, those plans were largely put on hold. When peace returned in 1783, the new State government turned its attention to this chronic and still unfulfilled need. The result was legislation passed on November 11, 1784 with a bill titled "AN Act for laying out a publick Road or highway to Dartmouth College". The act called for a road to be made from the River Road in Boscawen "… in the most convenient and direct way to the Connecticut River at or near Dartmouth College". Construction of this first very crude road was controversial and costly, and years after the fact it was considered a short lived failure at best. It is indeed debatable as to whether the road was ever fully completed and made continuously usable – something the historical record does not make entirely clear. Nonetheless, it is believed that a portion of present-day Shaker Hill Road and Lockehaven Road to the Enfield-Grafton town line is part of the so-called "Boscawen Road".

For Enfield, this first attempt at regional road building coincided with the first established postal routes into the region and encouraged some amount of settlement within the northeast corner of the town, from the outflow of Crystal Lake (Lockehaven) to Spectacle Pond. This early history is well-chronicled in the 2006 History of Enfield book and is referred to as Chebacco Street and Northeast Enfield. The result was that this became Enfield's first area of something more than just randomly scattered early settlement.

Beginning in the 1790's, the persistent lack of government funds for much needed road development prompted the era of turnpike development within the northeast region of the country, including Pennsylvania. By 1800 what some have called an outbreak of "Turnpike Fever" had become fully evident in New Hampshire. These "turnpike" roads were in fact a network of privately owned and constructed toll roads, created by virtue of a charter from the State Legislature. Within the west central region of New Hampshire, the Second, Third, and Fourth New Hampshire turnpikes, as well as the Grafton and Coos turnpikes, not only connected the Merrimack River and Connecticut River Valleys, but for the first time provided Vermont with market road access to lower south-central New Hampshire and eastern Massachusetts.

Of these many roads, the Fourth New Hampshire Turnpike was by far the best positioned and as a result the most successful; and it came right through Enfield. Chartered by the Legislature in 1800, construction of the Fourth New Hampshire Turnpike was completed by 1804 - much to Enfield's benefit. It represented the first truly useful long distance "market" road in the Upper Valley region east of the Connecticut River that, over a distance of approximately 55 miles between Lebanon and Concord, linked the Connecticut River and Merrimack River Valleys. Furthermore, the turnpike was part of the primary route, which included the movement of mail, between Burlington, Vermont on Lake Champlain and the port of Boston in Massachusetts. The portion of the turnpike that passed through Enfield is now New Hampshire Route 4A, a State owned and maintained highway.

The coming of the Fourth New Hampshire Turnpike brought with it the opportunity for growth and business development along its course. This quickly became noticeable within the village area of Enfield Center, as well as along the abundant water falls of the Knox River that paralleled the turnpike, including the small settlement called Fish Market. The turnpike undoubtedly played a role in the substantial growth of the Shaker community, located along the turnpike on the westerly side of Lake Mascoma. The Shakers, who first made a presence in Enfield as early as 1782, became a thriving communal religious sect, perhaps most noted for their equality and celibacy of the sexes, but also for their great industriousness and entrepreneurial spirit. By the

time the former privately owned and operated turnpike became entirely "freed" in 1844 (meaning no longer a privately-owned toll road), the village of Enfield Center and the nearby Shaker community were the points of greatest settlement, population, and business activity within the entire town.

During this time, prior to the coming of the railroads in the late 1840's, additional settlement patterns continued to evolve throughout the entire township, including an amount of settlement with manufacturing activity along the Mascoma River near its confluence with Lake Mascoma. This latter area came to be referred to as North Enfield; and was primarily noted because of the abundant water power made available by the Mascoma River. North Enfield did not have the population or as great an amount of business activity as was seen along the Fourth New Hampshire Turnpike over on the west side of Lake Mascoma, at the several Shaker village areas, and at Enfield Center along the Knox River. However, water-powered mill development did occur early on in North Enfield. By 1834, the mills came to be owned by the Shakers when they acquired the water rights to the Mascoma River. During the next several decades, the Shakers would do much to more permanently develop water powered manufacturing that in turn led to the further establishment of a substantial village settlement in this area. Although the primary Shaker community remained within the several village areas located along the Turnpike on the west side of Lake Mascoma, referred to by the Shakers as the South, Church, and North Families, the Shakers did erect a few buildings across the lake at North Enfield, primarily to suit their various manufacturing operations.

Regionally, by the early 1840's, there came an increased interest in railroad development in western New Hampshire and throughout Vermont. The primary motivator was the need to link the Boston region of eastern Massachusetts to Canada and the Great Lakes of the Upper Mid-west. While not looking to replicate the route of the well-traveled Fourth New Hampshire Turnpike, engineers had determined that utilizing the valleys of the Black and Smith rivers, railroad tracks could successfully cross over into the Connecticut River Valley at Orange, New Hampshire. From there, via the Mascoma River watershed, itself a tributary of the Connecticut River, the rails could reach West Lebanon and cross the Connecticut River into Vermont and points west. To those looking to invest in railroad development, this became known as the "Central Route" to connect Boston with Lake Champlain. The first survey of this route located the proposed railroad line coming from West Canaan, passing immediately west of Crystal Lake, and then running along the westerly side of Lake Mascoma and along that section of the Turnpike that passed right through the middle of the Shaker community. The Shaker Elders were successful in pointing out to the railroad's engineers that an alternate route, following the Mascoma River from West Canaan and coming upon the northerly side of the lake, was not only a more feasible route, but would increase local trade in the railroad's favor. The Shakers believed that the railroad would encourage additional manufacturing development along the Mascoma River at North Enfield. The first survey of this alternate route had the railroad diagonally crossing the lake at its narrowest point, northwesterly of the present day Shaker Bridge; however, by the time of actual construction in 1847, the engineers had decided to make the deep rock cut that exists to this day on the Northern Rail Trail, and run the track entirely along the northerly side of the Lake heading west towards Lebanon.

The Northern Railroad was completed in June 1848; and by August 1851, via seven (7) separate railroad companies, a continuous line of tracks extended from Boston, Massachusetts to Ogdensburg, New York on Lake Ontario – a distance of approximately 400 miles. That September, a three-day celebration was had in Boston to highlight the completion of the

"Northwest Passage." The talk of the town was that within 36 hours, fresh butter could be shipped on ice from Ogdensburg to the port of Boston - a true marvel of the modern age! As for Enfield, the town found itself on the "Main Line" and once again would be greatly influenced by a new development in regional transportation. But with any new development in transportation, there are often winners and losers, and such was the case in Enfield.

The opening of the 69-mile-long Northern Railroad between Concord, New Hampshire and White River Junction, Vermont in 1848 proved to be a tremendous success for not only the railroad's directors and stock holders, but for the much of the northeast region as a whole. Just as the opening of the Fourth New Hampshire Turnpike forty-four years earlier had influenced growth and development within the area of Enfield Center, at the expense of a previously settled area of the town, so too did the opening of the railroad. The taverns in and around Enfield Center that had supported travel on the turnpike soon faded away. The mills along the Knox River with their somewhat limited manufacturing activities lessened as larger scale water powered manufacturing developed along the Mascoma River in North Enfield, conveniently adjacent to the Northern Railroad.

The Northern Railroad opened for through-freight and passenger service in 1848 and almost immediately it triggered a fresh wave of development in North Enfield. However, it was the forty-year period after the American Civil War that truly left its mark on Enfield. The rapid expansion of the national economy following the war, coupled with the many technological advancements in engineering and manufacturing, sowed development and prosperity throughout much of the country, including in Enfield beginning about 1870. By the early years of the twentieth century what had been referred to as North Enfield was just called Enfield by the United States Post Office. It had grown into a thriving and substantial village area that boasted large well-established woolen and tanning mills, as well as other varied forms of commercial activity – all powered by the Mascoma River and fed by the railroad. Clearly the center of commercial, economic, residential, civic and political life had noticeably shifted within the town. This is not to imply that the outlying areas within Enfield were abandoned, for in fact an 1892 map of Enfield shows four (4) post offices located within the borders of the Town: Enfield, Lock Haven [sp], Enfield Center, and Mont Calm [sp]. That same map shows a town that had become well-settled with an established network of local roads that served the more rural and remote areas; however, the fact remains that the railroad had caused a great shift in development patterns that are apparent to the present day. Furthermore, it is of interest to note that the Shakers quickly understood the changing dynamics that the railroad brought. In 1849 they constructed the first so-called "Shaker Bridge" across the narrow area of Lake Mascoma, linking the large Shaker settlement with the railroad in North Enfield. This bridge was an interesting engineering accomplishment in its day. With modifications from time to time, it served the local and regional transportation needs for eighty-nine years until it was destroyed by the infamous New England hurricane of September 1938.

America cannot claim to have invented the automobile; and in fact, it can be well argued that the automobile was not an invention at all but simply the logical evolution and combination of late-nineteenth century technologies and manufacturing techniques. While it was the French and Germans to whom the initial credit must be given, it was in America that development of the automobile was phenomenally accelerated to the point that by 1910 America had unequivocally welcomed and adopted this new mode of transportation. The year 1916 was a pivotal year for modes of transportation. The number of miles of railroad track development peaked that year and then began a steady decline; for the first time more than one million new

automobiles and trucks were manufactured in American factories; and for the first time the Federal Government made funding for highway improvements available to the 48 states – the sum of $75 million.

As the proliferation of automobiles rapidly increased, so did the critical need for an improved highway system. In 1925 the Federal Government, working with the individual states, initiated the establishment of the first integrated national highway system. The following year US Route 4 was established. This was a designation applied to a former patchwork of existing local roads that stretched 252 miles westerly from Portsmouth, across New Hampshire and Vermont, to Greenbush, New York near Albany. Just as Enfield saw itself on the "Main Line" when the Northern Railroad and related rail network was completed seventy-five years earlier, the town was once again on the primary, centrally located, east – west highway across the twin state region. During the years before and after the Second World War, as traffic volumes and speeds steadily increased, Federal and State highway funds made noticeable improvements to this important road, much to the region's and Enfield's benefit. The establishment of US Route 4 secured "North Enfield" as the town center.

It was first the railroad and then the advent of the automobile that spawned the recreational development of the region's lakes and larger ponds, including Lake Mascoma. By the turn of the twentieth-century, water bodies that had formerly been utilized solely for their water power potential and ice harvest during the winter months were attracting new seasonal residents seeking recreation. The continued expansion of the national economy was providing both white and blue collar Americans with more leisure time as well as greater amounts of disposable income to support recreational activities. For Enfield this meant a wave of seasonal "cottage" development around the perimeter of Lake Mascoma, and to a lesser degree on Crystal Lake. By the middle of the Twentieth Century this was an important component of Enfield's distinctive demographic mix. As a side note, it was during this time – late nineteenth / early twentieth century – that saw the decline and eventual demise of the once thriving Enfield Shaker community. The last remaining Shakers left the Enfield community in 1923 and by 1928 the Shakers' eleven hundred acres of land and seventy major buildings had been sold. While the end of the Shakers once important presence in Enfield was a change for the community, it was not induced by what had become two major competing modes of transportation: the railroad and the automobile.

The post-war decades that followed the Second World War in 1945 saw a continuance of the local Enfield economy dominated by the woolen mills; however, that came to an end in 1971 when the last mill closed permanently. As for the Northern Railroad, which had become part of the sprawling Boston & Maine Railroad system, the largest in New England, traffic steadily declined from as many as sixteen trains a day (eight freight and eight passenger trains of which five stopped in Enfield) to just a trickle by the late 1970's. By the early 1980's all rail service on the line had been abandoned. The last passenger service on the line between White River Junction, VT and Concord, NH that passed through and stopped at Enfield did so in January 1965. By that time construction of the new interstate highway (I-89) from Concord westerly towards Vermont was underway.

In the early 1950's, before the construction of I-89, the State of New Hampshire rebuilt what had been known in the Nineteenth Century as the Fourth New Hampshire Turnpike, between Lebanon and Andover, and called it NH Route 4A. This substantially improved highway became, for a short time, a faster way to travel between the Upper Valley and Concord in the south-

central region of the State. Locally, it probably had little impact one way or the other upon Enfield's fortunes. Once I-89 fully opened between Concord and West Lebanon in 1968, Route 4A was no longer part of the region's "main road" to Concord and Boston; however, for a brief fifteen or so years, it served as a "short cut" and as a result pulled much through traffic off of US Route 4 in towns like Enfield and Canaan.

In conclusion, it is clear that modes and patterns of transportation, coupled with water-powered manufacturing opportunities greatly influenced the development of the town, all in ways that are still visible and understandable to this day. These patterns continue to inform us as to aspects of the Town's future, be that population growth or other economic opportunity.

In February 2007 the New Hampshire Department of Transportation (DOT) released a comprehensive 88 page document titled *US Route 4 Corridor Management Study: Lebanon – Enfield – Canaan.* This important document makes it abundantly clear that this State owned and maintained highway is not only one of the region's major highway arteries, but the most major highway located in Enfield except for that portion of Interstate I-89 that passes through the westerly portion of Enfield. The study states that:

> "The primary goal of the US Route 4 Corridor management Study is to maximize the potential of the corridor to serve economic development in Enfield and Canaan without impeding the flow of commuter traffic on this major artery to the Lebanon-Hanover job center."

The study goes on to state that:

> "U.S. Route 4 is a two-lane undivided highway running east-west from East Greenbush, New York to Portsmouth, New Hampshire. Its functional classification is a minor arterial, which means that the roadway has three primary functions in the statewide transportation system: 1) To serve trips of moderate length; 2) To provide access to geographic areas smaller than those served by the highway system; 3) To provide intracommunity continuity, but not penetrate identifiable neighborhoods.
>
> Route 4 is an east – west corridor. At the regional level, this is especially important given the lack of efficient travelways in the Upper Valley Lake Sunapee region. However, the roadway also plays an important role at the statewide level because the roadway serves as a parallel facility to Interstate 89. Route 4 carries significant volumes of heavy traffic, both local deliveries and for freight transport to the Baker River Valley."
>
> "Over the past 25 years, the role of the U.S. Route 4 corridor has changed significantly. The Upper Valley Lake Sunapee region has experienced significant growth in employment and population during this period, with many residents settling east of the Upper Valley employment center of Hartford-Hanover-Lebanon. This pattern has resulted in sharp growth in Route 4 corridor communities, especially in the towns of Enfield and Canaan, and has transformed Route 4 into a commuter corridor serving the Upper Valley employment center. The U.S. Route 4 Commutershed includes the towns of Enfield, Canaan, Grafton, Orange, and Dorchester."

New Hampshire's DOT classification and analysis of that portion of Route 4 located in Enfield makes it clear that this highway has not only evolved to be Enfield's most major highway and commercial corridor, but that this pattern will become more firmly rooted and important for as long as our primary means of transportation continues to be the individually owned and driven

automobile. It is interesting to note that the years of importance of the Fourth New Hampshire Turnpike (1804 to 1848), and New Hampshire Route 4A (1954 to 1968) were relatively short-lived compared to the approximate one hundred years that U.S. Route 4 has played its prominent role in defining important aspects of Enfield's evolution.

It has been mentioned previously that within Enfield is an area of settlement that, by the time the Town & City Atlas of the State of New Hampshire was printed in 1892, was referred to as Montcalm. This area, situated within the southwesterly corner of the township between Methodist Hill to the west and Prospect and Montcalm hills (Shaker Mountain) to the east, is almost completely isolated from the remainder of the Town of Enfield. The geographical isolation of this area, resulting from the steepest topography within Enfield, has not only caused the area to remain lightly settled over time, including to the present, but has also caused its orientation to be far more towards Lebanon than Enfield.

Enfield first experienced modern highway development in 1909 when the New Hampshire Legislature passed the so-called "Trunk Line Law". This act established a network of three (3) highways that ran in a north and south direction within the State – one along the easterly side of New Hampshire, one centrally through the Lakes Region, and one along the westerly side of the State somewhat parallel to the Connecticut River. The purpose behind designating these three routes as State highways was in an effort to apply state funding for their improvement to augment automobile travel. Much of the westerly trunk line is present day NH Route 10 (and a portion of I-89) that passes through the westerly part of Enfield, thereby connecting Keene, Newport, and Lebanon with points north within the Upper Connecticut River Valley. Although improvements were made to this early State highway where it passed through Enfield, it appears that the improved road had little impact upon development patterns and land use within the town as a whole. By the early 1960's portions of NH Route 10 were being swallowed up to allow for the construction of I-89. When this section of the new interstate highway was completed through Enfield in 1968, there were three exits constructed, numbers 14, 15, and 16; however, only very localized and isolated growth has occurred at these locations during the past fifty years. Given Enfield's present land use regulations, the natural topography, and present municipal highway, water, and sewer infrastructure, that overall pattern does not seem as though it will change into the foreseeable future.

It appears that through this century, the modes of transportation and transportation patterns of the region, as they impact Enfield, will not be changing. Although there is occasional discussion about re-establishing a rail link between the Upper Valley and central New Hampshire, the likelihood of that seems very remote at best. The conditions that caused the Northern Railroad corridor to fall from favor fifty or sixty years ago, yielding to other patterns of rail transport, and to interstate highway I-89, remain valid and are not likely to change. All of this suggests that development patterns within Enfield are not likely to change over the course of coming decades. The historic patterns of settlement and development laid down over the past two plus centuries will continue to be refined and, in some areas, intensified; however, the overall patterns will remain in place and be recognizable.

End of Sub-Section A-1: Historic Overview

A-2: Topography and Land Use.

Just as an historic overview of the Town of Enfield informs us as to past and present settlement and transportation patterns, so too does an overview of Enfield's topography and land use. Examining the lay of the land, and the manner in which it was used, provides a lens through which to better understand the past and present, and offer an informed view into the future.

As previously stated, the Town of Enfield is a township with a geographical area of 40.3 square miles, or 25,792 square acres of land area. Of this total land area, 2.9 square miles (1,856 square acres) is made up of standing water bodies – Lake Mascoma, Crystal Lake, and Spectacle, Smith, and George Ponds being the largest and most notable. In addition to these larger water bodies, the Town is well-watered with the Mascoma and Knox Rivers, in addition to numerous smaller flowing streams such as Stoney Brook.

Were one to take a map of the Town that highlights its natural features, both aquatic and topographic, and draw a line diagonally from the upper northerly boundary corner to somewhere near the southerly boundary corner, an interesting land pattern very quickly becomes apparent. The land area within the Town's boundary that lies above, or northeasterly of that diagonal line is less steep, more suitable for development, and contains most of the area of the larger waterbodies. That land within the Town's boundary that lies below, or southwesterly of that diagonal line, is far steeper and far less suitable for development; and does not share in a significant way any of the larger waterbodies that are an important asset of the Town. Understandably, this observation in very large part accounts for how and why the Town of Enfield has developed over the past two hundred- fifty years to the extent that it has.

On March 13, 1990, by a vote of the citizens of the Town of Enfield, the Town adopted its first town-wide *Zoning and Floodplain Development Ordinance*. This important document has been amended by the citizens twenty times, most recently on March 14, 2017. The present ordinance is a comprehensive and thoughtful document that, with the accompanying land use *Zoning District Map,* is largely reflective of the broad topographic and waterbody givens noted above.

Prior to the adoption of town-wide zoning in 1990, Enfield had adopted subdivision regulations on October 15, 1974; and site plan review regulations on September 15, 1976. Both of these important land use regulations have been amended repeatedly over the years such that they are both reasonably comprehensive and current. They are reflective of the community that they are intended to serve and support. Furthermore, the Town has a master plan, a very comprehensive and thorough document that is also very reflective of the community at large.

The zoning ordinance and master plan documents serve the purposes of this study well for they speak to land use and development as it is presently envisioned by the Town's citizens. Equally important, they provide an insight as to future development of the Town.

Applying the broad, so-called "diagonal division line" to quickly understand land use patterns, as envisioned by the Town's zoning document, a large amount of steep slope areas within the lower southwesterly area is presently zoned Conservation. As a result, large scale development within these more fragile and remote areas is sharply limited. This area has several large tracts of land that are protected with conservation restrictions. Furthermore, there is no municipal domestic water or sanitary sewer service within this area of Enfield, nor is there the demand or need for same. For the purposes of this study and subsequent report, it is reasonable to think

that over the coming decades there will occur only very limited additional growth within this remote section of the Town.

Staying within this southwesterly remote area of Enfield, the Interstate I-89 corridor extending between the Lebanon and Grantham town lines is presently zoned for commercial and industrial uses and is referred to as the *C/I Commercial/Industrial* zoning district. This zoning district is very narrow and follows the highway which is within the small valley of Stoney Brook. The minimum lot size is two (2) acres; however, there are significant pockets of poorly drained soils within this area, as well potential environmental setbacks from Stoney Brook that challenge this comparatively small minimum lot size requirement. Since this section of I-89 was completed fifty years ago, there have been light amounts of commercial growth along this very rural and remote corridor. It is reasonable to think that that pattern will continue but probably be small scale and limited; and that the zoning designation and uses will not significantly change. Again, it is important to keep in mind that environmental conditions (steep slopes, water bodies, and wet lands) will continue to play an even greater role as they impact land use and the potential for development within this area of Enfield.

The remainder of the land area within this remote corner of the Town is zoned for low density single family residential and agriculture use, with a minimum lot size of five (5) acres. These lands are designated as being within the *R5 Residential–Agricultural* zoning district. Like the commercial / industrial zone along the I-89 corridor, this area is oriented far more towards Lebanon than Enfield. And given the lack of road infrastructure, municipal services, and remote and rural terrain, it is reasonable to believe that just as in the past, growth within this area will continue to be slow to very moderate in the coming decades of this century.

Continuing with the diagonal division study concept, the land area within the upper northeasterly side of Enfield is presently zoned in a manner that broadly reflects long established land use and development patterns, topography and natural features, and the availability of municipal services and infrastructure.

The present downtown village area and the area extending a relatively short distance both east and west along U.S. Route 4, is appropriately zoned the *CB Community Business* zoning district. Easterly of this area, along Route 4 to the Canaan town line, land is zoned for denser, more compact, mixed-use and multi-story type building development. This so-called *Route 4 District* is supported by the availability of existing municipal domestic water and sanitary sewer infrastructure. The former Baltic woolen mill complex is zoned for commercial and industrial uses. This property too is supported with municipal water and sewer infrastructure. Considered as a whole, these contiguous business / commercial / industrial / mixed-use zoned land use areas make for a very manageable, compact, and largely predictable build-out portion of the Town.

Closest to the downtown village and Route 4 area, around Lake Mascoma, in Enfield Center and easterly along NH Route 4A, are areas zoned for one, two, and multi-family residential housing, on smaller lots with a minimal lot size of one (1) acre. This is the *R1 Residential* zoning district. To the east of Lake Mascoma, and around the perimeter of Crystal Lake, is a large zoning district also intended for one, two, and multi-family residential housing on larger lots of three (3) acre minimum lot size. This is the *R3 Residential* zoning district. The large land area east of Crystal Lake to the Grafton and Springfield town lines, north to Canaan town line, and south to the Grantham town line, is zoned for single-family residential dwelling units and agriculture on

larger five (5) acre minimum sized lots. This zoning designation is *R5 Residential-Agricultural* and is the most rural and least dense of Enfield's residential zoning districts.

On July 1, 2008, the *Shoreland Water Quality Protection Act, RSA 483-B,* passed by the New Hampshire legislature, became law. This broad sweeping piece of legislation has made a significant difference as to how land adjacent to major water bodies across the State, including those in Enfield, is used and developed. Within the Town of Enfield, as per the *DES Consolidated List of Waterbodies Subject to RSA 483-B,* the following waterbodies are within the jurisdiction of this regulation: the Mascoma River; Lake Mascoma and Crystal Lake; Cole, George, Smith, and Spectacle ponds; and Crystal Lake Brook Pond. Neither Stoney Brook nor the Knox River are listed and are therefore exempt from this state jurisdiction.

From this brief overview description of topography, land use, zoning and planning regulation in Enfield, the following assumptions can be drawn relative to this study and subsequent report:

- It is entirely reasonable to assume that the existing land use documents, state or local, that speak to land use and development within the Town of Enfield will not significantly change in the coming decades of this century. Nor is it reasonable to believe that these regulations and ordinances will in any way become less restrictive and more permissive.

- As a result, the present long-established patterns of land use, development, and growth will remain and not significantly change. Likewise, it is realistically possible to understand where increases in growth and density will occur; and where potential new demands will be placed on existing municipal services. Furthermore, the transportation related developments and associated impacts that so significantly influenced historic patterns of settlement and land use have, for the past fifty or so years, remained largely static, and therefore are not likely to change in the coming decades.

- It is entirely reasonable to assume that new development and growth within the Town will more likely occur closest to the existing village area where there is municipal water and sewer service, and in those areas presently zoned for higher residential density, as in the R1 Residential zoning district.

- The changing age and income demographic within both the Upper Valley region and the Town of Enfield will of course have an impact upon land use and development. It can be said that this has always been so. Regardless, several factors are readily becoming apparent:

    - Land development costs continue to rise and as a result favor development tied to existing municipal infrastructure (roads, water, and sewer).
    - The cost of new building construction, including land and site development, continue to climb as well. This will undoubtedly cause fresh evaluations of existing developed properties, and potentially limiting scattered and premature development.

- Every indicator points to the fact that younger home owners are favoring smaller, more efficient, village / urban situated dwelling patterns, as opposed to the large lot, spread-out patterns so common during the post-second World War period to the present day.

- Understanding these factors will allow Enfield, to more effectively address future municipal needs, plan accordingly and further grow the local tax base.

End of Sub-Section A-2: Topography and Land Use

A-3: Population, Housing, Employment & Wages, Income, and Labor Force.

To better plan for municipal services and facilities for the present as well as the future, it is important to understand population and demographic trends as they apply to Enfield. This, coupled with an expanded understanding of Enfield's overall history, and the role that it has played regionally, will provide a lens into the future. It will afford civic and political policy makers an understanding of the level of municipal services that the residents of the community will expect and be willing, within reason, to support through the payment of future property taxes.

Population

At the time of the initial settlement of the Town, in the latter decades of the eighteenth century, the population of Enfield was undoubtedly white, Protestant, and largely agrarian based. Those persons not fully bound to the land by way of family-based subsistence agriculture were either engaged as local millers, laborers, builders, or at least seasonally engaged in regional transportation. In 1800 the population of Enfield surpassed 1,000 persons. Enfield's population continued a steady increase to about 1,750 persons in 1850, about the time the Northern Railroad came and a more concentrated effort at establishing water-powered manufacturing on the Mascoma River began. From 1860 through 1900 the population varied from 1,876 to 1,845 persons; and these remained peak years until 1960. Between 1900 and 1960 the census figures for each decade show changing population levels of alternating highs and lows, although no meaningful pattern is discernable. In 1960 the population reached about the same level as was experienced in 1900 with 1,867 residents. From that new peak in 1960, the population change for Enfield has totaled 2,668 residents over 56 years, from 1,867 in 1960 to 4,535 in 2016. The largest decennial percent change was between 1970 and 1980, when the population increased by 35 percent. A similar, but not quite as dramatic increase occurred between 1980 and 1990, that is revealed locally, county, and state wide, as follows:

	1980	1990	% Change
Enfield:	3,175	3,979	26%
Grafton County:	65,806	74,929	14%
New Hampshire:	920,475	1,109,117	20%

Broadly speaking, there were several important regional factors that played to Enfield's advantage. Although the region's woolen mills were all permanently closing by circa 1960, and with the Baltic Mill in Enfield as the last to shutter its doors in 1971, the local manufacturing economy was in fact re-making itself. Companies like Split Ball Bearing, New Hampshire Industries, New Jersey Machine, Thermal Dynamics, and more, all based in Lebanon, were replacing the closed former textile mills with new precision manufacturing. In Hanover, Dartmouth College and the Mary Hitchcock Memorial Hospital were expanding, as was the Dartmouth Medical School. In 1964 the United States Army opened its new Cold Regions Research and Engineering Laboratory (CRREL), also located in Hanover.

Through the 1960's two new Interstate Highway routes, I-89 and I-91 were constructed, which intersected at White River Junction. At the same time, the Lebanon airport was expanded. Enhancements to the region's transportation infrastructure greatly improved access to the Upper Valley from major population centers within the northeast region of the United States and Canada. This in turn greatly boosted seasonal recreation and general employment within the region – all to Enfield's benefit.

By the later 1970's, an impact upon the region's housing market began to be seen as a direct result of these dramatic regional changes occurring during this post-World War II period. As institutions and major employers in Hanover expanded, housing opportunities in Hanover became fewer, while at the same time costs for available housing there increased. As this dynamic continued into the 1980's, it caused home buyers of average means to look beyond Hanover to the surrounding towns in an effort to find housing that was comfortable, affordable, and reasonably convenient. In many cases, existing long held properties were sold by aging persons of blue-collar, working-class backgrounds to a new generation of younger, white collar, professional class individuals starting families. Indeed, it can be clearly argued that during this period the overall demographic mix of many of the Upper Valley region's towns, on both sides of the Connecticut River, was noticeably beginning to change. That changing demographic is visible to this day and continues to play out within the region, including within the Town of Enfield.

As stated above, the current population of the Town of Enfield, as per the most recent data available from the Economic & Labor Market Information Bureau, NH Employment Security, March 2018, and the 2016 Census estimate, is 4,535 residents. This ranks Enfield 82nd among New Hampshire's incorporated cities and towns. Based upon data from the State of New Hampshire, since the Census of 1970, the population of both Enfield and Grafton County has grown as follows:

	Enfield	Grafton County
2016:	4,535	88,888
2010:	4,582	89,118
2000:	4,626	81,826
1990:	3,983	74,998
1980:	3,175	65,806
1970:	2,345	54,914

The 2017 estimate of Enfield's population is 4,661 persons.

The gender mix of Enfield's resident population, as per the American Community Survey (ACS) for the period of 2012-2016, is 2,104 Male and 2,453 Female. Furthermore, Enfield's population by age group breaks down as follows:

Under age 5:	87
Age 5 to 19:	618
Age 20 to 34:	790
Age 35 to 54:	1,436
Age 55 to 64:	767
Age 65 and over:	859

The Median Age is 46.0 years.

The Educational Attainment, for that segment of the population 25 years and over is:
High school graduate or higher is 91.5%.
Bachelor's degree or higher is 41.5%.

Any discussion of population figures as they apply to Enfield must take into consideration the seasonal increases that occur each year during the non-winter months. The *Enfield 1995 Master Plan* estimated that at that time the peak seasonal population was 5,645, or about a 41% increase from the permanent based year round residential population. That figure has probably not significantly changed.

Housing

As per the most recent figures available from the Economic & Labor Market Information Bureau, New Hampshire Employment Security, March 2018, a brief look at Enfield's housing situation states the following:

- Total Housing Units: 2,661
- Single-Family Units, Detach 2,011
- Units in Multiple-Family Structures:
  - Two to Four Units in Structure: 353
  - Five or More Units in Structure: 165
- Mobile Homes and Other Housing Units: 132

Employment & Wages

As per the most recent figures available from the Economic & Labor Market Information Bureau, New Hampshire Employment Security, March 2018, a brief look at Enfield residents' employment and wages states the following:

Annual Average Covered Employment	2006	2016
• Goods Producing Industries		
• Average Employment:	84	74
• Average Weekly Wage:	$ 718	$ 779
• Service Providing Industries		
• Average Employment:	504	598
• Average Weekly Wage:	$ 548	$ 851
• Total Private Industry		
• Average Employment:	588	672
• Average Weekly Wage:	$ 572	$ 843
• Government (Federal, State, and Local)		
• Average Employment:	164	157
• Average Weekly Wage:	$ 594	$ 777
• Total, Private Industry plus Government		
• Average Employment:	752	829
• Average Weekly Wage:	$ 577	$ 831

Income

As per the most recent figures available from the Economic & Labor Market Information Bureau, New Hampshire Employment Security, March 2018, a brief look at Enfield residents' income in inflation adjusted dollars, states the following:

- Per capita income: $46,613
- Median family income: $80,556
- Median household income: $75,114
- Median Earnings, full-time, year-round workers, 16 years and over:
  - Male: $57,857
  - Female: $48,579
- Individuals below the poverty level: 4.7%

Labor Force

As per the most recent figures available from the Economic & Labor Market Information Bureau, New Hampshire Employment Security, March 2018, a brief look at Enfield's labor force, shows the following:

Annual Average	2006	2016
• Civilian labor force:	3,321	3,106
• Employed:	3,249	3,053
• Unemployed:	72	53
• Unemployment Rate:	2.2%	1.7%

Percent of Working Residents as Commuters

- Working in community of residence: 13.1 Persons
- Commuting to another NH community: 75.7 Persons
- Commuting out-of-state: 11.2 Persons

From this brief overview description of Enfield's population, housing, employment and wages, income, and labor force, the following assumptions can be drawn relative to this study and subsequent report:

- Over the past fifty years Enfield has become one of the major so-called "bed-room communities" within the greater Upper Valley Region. This trend is going to continue, and should provide the Enfield community with continued benefit and minimal risk.
- Given the overall demographics of both Grafton County in New Hampshire, Windsor and Orange counties in Vermont, as well as more broadly within the two states, population growth in Enfield will likely occur at a slower pace than seen a generation ago. And it will continue to be an older population; like the region as a whole.
- Given that the economic complexion of the region is overall more diverse and more broadly rooted than it was fifty years ago, it can be expected that income levels and employment opportunities will remain at a comfortable level.

- Enfield's abundance of water-front shore-line will continue to be an asset as far as population and economic growth are concerned, as well as an important component of the Town's economic tax base.

End of Sub-Section A-3: Population, Housing, Employment & Wages, Income, and Labor Force

Section B: Existing Facilities

B-0: Introduction

On Monday October 29, 2018, this writer, Frank J. Barrett, Jr., A.I.A., Architect, and consulting structural engineer Timothy L. Schaal, PE, made site visits to eleven (11) town-owned facilities. Those facilities, listed and titled in the order that they appear in the Municipal Facilities Optimization Study (MFOS) Request for Proposals (RFQ), are as follows:

1. Whitney Hall – 23 Main Street – Whitney Hall currently houses the Town administrative offices in the basement, the Enfield Public Library on the main floor and a theater group on the 2nd floor.
2. Police Facility – 19 Main Street.
3. Public Works Facility – 74 Lockehaven Road – Houses highway, water/sewer, planning/zoning, building inspection/health, building and grounds and solid waste.
4. Union Street Fire Station – 25 Union Street.
5. Enfield Center Fire Station – 1100 NH Route 4A.
6. Enfield Community Building – 308 US Route 4 – All-purpose meeting and event facility.
7. Depot Street Station – 18 Depot Street – Houses the Enfield FAST Squad.
8. Pavilion Building – 3 Main Street – Recreation storage and location for various community events and activities.
9. Shedd Street Garages – Currently used for fire department equipment and general storage
10. Transfer Station – 39 Lockehaven Road.

After the RFP was issued and the Barrett office was retained, it was agreed to add the Enfield Center Town House (1044 NH Route 4A) to the study making it the eleventh facility to be studied. Since the initial site visits on October 29th, both Mr. Schaal and Mr. Barrett have individually made additional visits to some of the properties to gather further information. Full copies of Mr. Schaal's individual reports for each of the eleven buildings are included within each individual sub-section of this report.

The purpose of the site visits to each of the above referenced properties was multi-fold, and included, among other observations, the following:

- Make an overall assessment of the age, condition, and expected longevity of the building.
- Make a preliminary structural assessment of the building.
- Understand and assess the building's utility for the purpose at hand and / or other possible municipal or non-municipal uses.
- Understand and assess the land parcel that the building is situated upon, and its ability to accommodate future expansion and / or other municipal and non-municipal uses.

Preliminary Structural Evaluation Report Introduction

Schaal Engineering, P.C.
P.O. Box 152 / 61 Depot Street
Wilder, Vermont 05088-0152
(802) 295-2002 | timothy@schaalengineering.com

Town of Enfield, NH – Municipal Facilities Optimization Study
December 10, 2018

INTRODUCTION

In accordance with this firm's proposal to Barrett Architecture in support of the Municipal Facilities Optimization Study (MFOS) for the Town of Enfield, NH, the following services were performed:

- Project kick-off meeting with a cursory review of available information (building plans, studies, site plans, etc.) and formulation of the plan for the site visits.
- Site visits conducted on October 29 and December 4, 2018 to complete cursory observations of the ten buildings cited in the RFP, plus the Enfield Center Town House. Basic structural information was gathered to the extent practical and possible given the limited scope of this study and time constraints. No destructive investigations were performed.
- Review of the existing building plans for Whitney Hall, the Police Facility, and the Enfield Community Building.
- Preliminary structural calculations, to the extent practical at this stage, to assess roof and floor load capacities.
- Preparation of structural summaries of each separate building, which include:
    - A general description of the structural systems
    - Overall conditions assessment of the structures
    - "Bullet items" of noted areas of structural concern
    - Approximate Floor Live Load and Roof Snow Load capacities, where it could be determined within the limited scope of these evaluations
    - 2009 International Building Code (IBC) requirements for Floor Live Load and Roof Snow Load
    - Opinion on the structural viability and/or implications of adding solar arrays or added insulation to the building's roof
    - Conceptual level recommendations for work to address the noted structural concerns

Please note that these reports are intended to convey the findings of very cursory and limited observations which did NOT include the removal of any finishes and are therefore limited by what was able to be seen without destructive investigations. Although I have striven to make these evaluations as thorough as practical, by stating my observations and opinions herein, in no way do these reports certify or imply that all deficiencies have been uncovered.

Since all of the structures in the MFOS are public buildings, they fall under the jurisdiction of the 2009 International Existing Building Code (IEBC), which is now part of the New Hampshire State Building Code. The IEBC does NOT require that existing buildings be made to be compliant with today's requirements. However, under the IEBC's Chapter 6, Repairs, Section 606, it states that "dangerous conditions shall be eliminated." Further, if an existing building undergoes renovation or alterations, or has a change in use, it could trigger

requirements in the IEBC to make the structure compliant with the Code's current structural loading requirements for Floor Live Load, Roof Snow Load, and Wind & Seismic Loading.

The "Code Required Roof Snow Loads" cited in the individual building reports were calculated in accordance with the 2009 IBC, ASCE 7-05, *Minimum Design Loads for Buildings and Other Structures*, and the February 2002 report, *"Ground Snow Loads for New Hampshire,"* published by the U.S. Army's Cold Regions Research and Engineering Laboratory, for the site-specific ground snow load of each building.

(Note: The "Ground Snow Load" is the basis for determining "Roof Snow Load")

For most of the buildings in this MFOS, the required Ground Snow Load is 72 to 78 pounds per square foot (psf). Prior to the publishing of the February 2002 report by the U.S. Army's Cold Regions Research and Engineering Laboratory, most professionally designed buildings used a ground snow load of 60 psf specified in the 2000 IBC or earlier versions of the Code. Thus, the publishing of the 2002 report and its subsequent adoption into the New Hampshire State Building Code effectively increased the Code required roof snow load on buildings and other structures by 25% throughout Enfield.

Under EXISTING conditions, many of the buildings have roofs that have a *Thermal Factor* of 1.0, used for calculating the Code required Roof Snow Load. Given the New Hampshire Energy Code, if a building undergoes a significant renovation, it may be required (and likely desired) to add substantial new roof insulation. Under these conditions, the Thermal Factor used in the Roof Snow Load calculations often must be increased from 1.0 to 1.1. This change in the Thermal Factor increases the Roof Snow Load on a building by 10%. Further, by changing a roof's Thermal Factor, the Code-allowable reduction in snow loads for roof slope is decreased, again causing an increase in Roof Snow Loads.

The Code also requires that unbalanced loading, drifting, and sliding snow conditions be checked. "Unbalanced loading" assumes that snow blows from one side of the roof on to the other. Drifting and sliding snow assumes that snow from a higher roof is blown or slides onto an adjacent lower roof. For unbalanced loading, the Code required calculations result in a reduced uniform snow load on the windward side of the roof ridge and on the leeward side of the roof ridge, the snow loads are substantially increased. This can be problematic, especially for roof trusses, which were (and often times still are) designed for symmetrical loading conditions. Provisions for unbalanced, drifting, and sliding roof snow loads have been a part of the Codes since at least the mid 1980's, but those provisions have changed over the years and were sometimes not included in the structural design of a building.

The Codes allow for a nominal increase in loading of not more than 5% on an existing structure without having to make that structure comply with the current Code requirements for structural loading. Typically, the addition of solar panels to a roof increases the Total Loading on the roof from 2% to 4%. Thus, the addition of solar arrays typically meets the exception in the Code and is technically permissible. However, if adding more load (such as solar panels, or insulation and its resultant increase in roof snow load) will exacerbate conditions with a roof that is already significantly out of compliance with the current Code's Roof Snow Load requirements, then it is NOT recommended.

Though all of the buildings which are included in this Study are "public buildings," they have varying degrees of "importance" from both a Code perspective and from a practical sense. The Code groups buildings into four basic "Importance" or "Occupancy" categories for structural purposes. The least important category is "I" and is designated for "buildings and other structures that represent a low hazard to human life in the event of a failure." Examples of such buildings are agricultural buildings and "minor storage facilities". The Shedd Street garages, the Pavilion, and the Transfer Station garage are such facilities. At the other end is category "IV" which is for "buildings and other structures designated as essential facilities." This includes

police, fire, rescue & ambulance stations/garages, hospitals, emergency shelters, and "facilities required for emergency response."

Depending upon the structural loading (Roof Snow Loads, Wind and Seismic) criteria being evaluated, the structural loads could be decreased 15 to 20% for "Category I" buildings or increased by 10 to 20% for "Category IV" buildings, as compared to Category II buildings. Category II is the Occupancy Category to which most "typical buildings" are assigned. Thus, when evaluating whether or not a specific building could be re-purposed for a new use or occupancy, a new "Occupancy Category" could potentially trigger higher structural loading requirements by the Code.

The evaluation of lateral (wind and seismic) loading on specific buildings was not within the scope of this study. However, similar to other loading criteria (Floor Live Load and Roof Snow Load) the Code does not require that an existing building be made compliant with the current Code's structural provisions, unless:

- There is a known dangerous condition.
- There is a planned alteration which would affect the building's ability to resist lateral loads. An example of this would be if an existing building's solid exterior wall (which provides the lateral load resistance to the building) were to be replaced with significant new openings such as doors or windows.
- There is a change in "use" or "occupancy" of a building with the new occupancy having a higher Occupancy Category. Examples of this would be if the building at 7 Shedd Street were to become something other than "minor storage" or if the Enfield Community Building were to be considered for use as a police or fire station.

Summary Reports are included for the following buildings:

1. Whitney Hall; 23 Main Street, Enfield, NH
2. Police Facility; 19 Main Street, Enfield, NH
3. Public Works Facility; 74 Lockehaven Road, Enfield, NH
4. Union Street Fire Station; 25 Union Street, Enfield, NH
5. Enfield Center Fire Station; 1100 NH Route 4A, Enfield Center, NH
6. Enfield Community Building; 308 US Route 4, Enfield, NH
7. Depot Street Station; 18 Depot Street, Enfield, NH
8. Pavilion Building; 3 Main Street, Enfield, NH
9. Shedd Street garages; 7 &15 Shedd Street, Enfield, NH
10. Transfer Station; 39 Lockehaven Road, Enfield, NH
11. Enfield Center Town House; 1044 NH Route 4A, Enfield Center, NH

End of Sub-Section B-0: Introduction

B-1: Whitney Hall

The Location

23 Main Street; Tax Map 34 / Lot 37; in the CB Community Business zoning district.

The Site

This existing site is situated on the easterly side of Main Street, a State owned public highway that is believed to be three (3) rods wide. The maintenance of Main Street is shared between the Town of Enfield and the State of New Hampshire. The so-called Whitney Hall property is owned by the Town of Enfield, and consists of two (2) land parcels, acquired by two (2) separate transactions. The first, or "primary" parcel was purchased by the Town of Enfield by virtue of a deed recorded in the Grafton County Registry of Deeds on July 16, 1900, Book 448 / Book 232. The land purchased was a rectangular shaped parcel that measured seventy-two (72) feet wide by one hundred fifteen (115) feet deep, making for 0.19 acre of land area that fronted on Main Street. At a later date, a second parcel was added, also seventy-two (72) feet in width, that extended from the rear (easterly) part of the above mentioned original lot to the edge of the Mascoma River. A deed was recorded at the Registry of Deeds, Book 550 / Page 117 - the date appears obscure. The two (2) parcels together make up the present lot area of approximately 0.47 acre. The lot frontage on Main Street is the original seventy-two (72) feet; and the frontage on the Mascoma River is approximately 97 feet. The average depth of the lot from Main Street to the edge of the Mascoma River is approximately three-hundred and sixteen (316) feet. The entire rear of the lot borders on the Mascoma River.

An eight (8) inch Town owned and maintained sanitary sewer main passes across the rear of this lot; and the property is served by this sewer main. Domestic water service is provided by an eight (8) inch main located in Main Street.

The topography of the lot drops down quickly from high ground adjacent to Main Street to a generally flat area that extends to the Mascoma River. Although the lot borders on the Mascoma River, only the very rear edge of the property is located within the special flood hazard area, as per the adopted town zoning ordinance and related flood maps. However, approximately two-thirds of the lot area (250 feet from the edge of the Mascoma River) is within the jurisdiction of the New Hampshire Shoreland Protection Act. There appears to be little if any pre-treatment of storm water run-off from the large paved parking area shared with the adjacent town owned Police Facility property located immediately to the north at 19 Main Street.

The Building

This existing building is a multi-story structure of light-timber framing placed upon a stone and brick masonry foundation. The front of the building is two (2) stories; and from the rear, because of a sloping downgrade, the building is three (3) stories. The main body of the original building measures approximately 44 X 80 feet. The gross floor area of the building, less porches, is approximately 3,600 square feet. Both the author of this report, Frank J. Barrett, Jr., A.I.A., Architect, and the project consulting structural engineer, Timothy L. Schaal, PE, found the

overall condition of this building to be very good with a few notations (see the structural engineer's attached report).

The building was designed in 1900 to house a kitchen and dining facilities in the lower level basement; the Enfield Public Library, G.A.R. and Woman's Relief Corps, Selectmen's meeting rooms on the first floor; and a public meeting hall (Whitney Hall) with a balcony on the second floor. Construction of the new building was completed in the spring of 1901. The architectural style of the building is best described as a good period example of the popular Queen Anne style. To this day the building retains most of its original exterior finish and detail; and generally presents itself well.

In 1976, renovation work was undertaken that relocated the municipal offices to the lower level basement area, thereby providing additional space for the library. In 1993, a structure containing a new elevator was added to the back of the building. This addition also included some other alterations to the lower level, first floor and second floor of the building.

The present uses of the building include: the Town's municipal offices in the lower level, including the Town Clerk; the Town library on the first floor; and a theater company on the second floor. The second floor balcony space has been closed off and is now used mostly for storage. It is not clear if there are any fire ratings within the building; however, given the date of the elevator construction and other alterations, it is assumed that the elevator shaft has a one (1) hour fire rating.

The building is equipped with a modern automatic sprinkler system and fire alarm systems. The building's heating system appears to be adequate for the time being.

The gross square foot floor area of the building is approximately 3,600 sq./ft. per floor. The Town of Enfield has the property assessed as follows:

- Land: $104,400.
- Building: $353,300.

The Town of Enfield's administrative offices and the Enfield Public Library are the two primary occupants of the building on a daily basis. The second floor theater use is not as frequent; however, it is an important aspect of the building's use and must be kept in mind accordingly.

In terms of the New Hampshire Building Code (International Building Code), the present uses of the existing building are: Business Use Group "B" (Civic Administration) for the municipal offices; Assembly Use Group "A-3" for the Library; and Assembly Use Group "A-1" for the theater area. In terms of the State Fire Code (NFPA), the present uses of the existing building are: Existing Business and Existing Assembly.

Reviewing the actual spaces that these two important town functions occupy, and reviewing the applicable content within both the *Governance, Administration, Finance & Human Services Strategic Plan 2019 – 2023* (Administrative SP), and the *Enfield Public Library Strategic Plan 2019 – 2023* (Library SP), it is clear that these two functions have significantly outgrown their individual spaces within the building.

Administrative Functions

Observations and points of comment concerning the Town of Enfield's administrative functions, as they concern the present status of Whitney Hall, include the following:

1. On page 7 of the Administrative SP is an excellent Municipal Organizational Chart that illustrates the current organization of Enfield's municipal government. The Town Manager oversees and is directly responsible for various departments and functions of town government. Several of these departments, such as the Department of Public Works (DPW) are off-site and will remain so. Others like the Town's planning, zoning, and building code functions are presently located off-site at the DPW facility. It is questionable if that status quo is efficient and should remain. These functions are housed in the remotely located DPW facility simply because there is not sufficient room in Whitney Hall to properly accommodate them. Other functions, highlighted by the Organizational Chart, that must be adequately and conveniently housed within the municipal office and Town Manager's locale include: Assistant Town Manager; Assessing Administrator; Bookkeeper/Benefits Coordinator; Tax Collector; Town Clerk; and Human Services Director. The Human Resources Director has since moved to the DPW location.

2. On page 8 of the Administrative SP is the following outline of the municipal services currently provided by the Town of Enfield:

    - Administration
        - Municipal Management
        - Tax & User Fee Collection
        - Assessing
        - Accounting/Bookkeeping
    - Public Safety
        - Police
        - Fire
        - Ambulance
    - Public Works
        - Highway
        - Solid Waste
        - Buildings & Grounds
        - Water & Sewer
    - Cemeteries
    - Office of the Town Clerk
        - Elections
        - Licensing & Registrations
    - Recreation
    - Planning & Zoning
        - Land Use Permitting
    - Community & Economic Development
    - Inspection Services
        - Building, Health & Fire
    - Human Services
    - Public Library

3. On page 14 of the Administrative SP the following present staff positions are outlined. The Administration and Finance offices have six fulltime staff and one part-time staff member as follows:

Town Manager
Assistant Town Manager
Assessing Administrator
Town Clerk (also Deputy Tax Collector)
Tax Collector (also Deputy Town Clerk)
Bookkeeper
Human Services Director (part-time)

As previously mentioned, the Human Services Director has since moved to the DPW location.

4. On page 63 of the Administrative SP the following *Municipal Facilities Space Needs* are articulated:

Office space for additional staff member.
An additional 151 square feet would be required, which is not available in our Town Hall.
Existing staff spaces are under-sized for their purpose, "well worn," dark and dingy.
Additional personal office space and enhanced natural lighting would improve work productivity, job satisfaction, and visitor experience.
Project / staff meeting space.
Shared conference room does not allow for large projects to be done without conflicts with meetings scheduled.
Based on North American averages in 2017, we would need an additional 200 square feet for work space.
More file space.
Digitizing of records will free up space.
Before digitizing records, the State requires formation of a Records Committee. This Committee has been formed.
The Records Committee has not yet convened to determine which files to digitize.

The above comments copied from the Administrative SP support the observations and opinions of this writer. The space within Whitney Hall, presently occupied by the town governmental functions listed above, is indeed woefully inadequate and very substandard to support the current administrative needs of the Town of Enfield, not to mention the needs of the Town in the many generations to come. The fact that those administrative municipal functions currently located within the building do not have adequate space to efficiently serve the town is of first concern. Of additional concern is the fact that several important functions cannot be accommodated in Whitney Hall because of the lack of space, and must therefore be quartered at the Department of Public Works (DPW) facility located several miles out of the village center. This is critically inefficient from a management and work stand point, as well as being very inconvenient for the public. Those administrative functions not in Whitney Hall, and that take place out at DPW, include all planning, zoning, and building code enforcement services. Additionally, the DPW has the only readily available public meeting space for staff, Select Board, Zoning, Planning, and other administrative public meetings. Furthermore, these observations do

not take into consideration the Enfield Recreation Department, which is becoming a more important component of Enfield's municipal government, and is even more of an orphan than those functions just noted. All of this combined is inefficient and wasteful. This writer believes that the community as a whole must ask itself if this is the public face that Enfield wants to regionally project in the generations to come. In short, as will be further discussed below and as has been very apparent for many years now, Whitney Hall cannot continue to house both the Town's municipal offices as well as the functions of the Enfield Public Library.

Library Functions

Observations and points of comment concerning the Town of Enfield's Library functions, as they concern the present status of Whitney Hall, include the following:

1. On page 4 of the Library SP there appears an *Organizational Chart* showing that the Library staff consists of the Town Librarian, an Assistant Librarian, and an important handful of library clerks and volunteers.

2. On page 5 of the Library SP the following *Public Service Overview* provides the reader with the following base information about the Enfield Public Library:

    - It is open 5 days per week for a total of 34 hours.
    - It houses a collection of 27,941 items that include books, magazines, DVDs, audiobooks, story boxes and puzzles.
    - It offers access to 39,000 digital items through Overdrive (NH Downloadable e-books and e-audiobooks).
    - It circulates about 30,000 items and has close to 13,000 visits a year.
    - It provides unique services including wireless printing, scanning, faxing, technology help, research assistance, museum and park passes.
    - It participates in the statewide interlibrary loan program.
    - It supports technology use by offering free wifi and three public computers.
    - It presents programs for all ages.

3. Furthermore, on page 6, in 2017, the Library had:

    Total circulation: 30,138
    Overdrive/NH Downloadable checkouts: 3,975
    Visits: 12,797
    New patron cards issued: 147
    Computer and wifi usage: 1,106
    Programs: 342 with 4,113 participants
    Interlibrary loan: 731 sent to other libraries; 829 received for our patrons
    New items purchased: 1,653

4. On pages 24 and 25 of the Library SP, beginning in 2003, a brief over-view of the studies and recommendations that have been made concerning the need for additional library space is provided. It is worthwhile to quote from the document as follows:

Space: the Past

• As we stand on the precipice of a town-wide facilities study, it's worth noting that the library's space needs have been studied three times by town and library officials since 2003.
• 2003-2004: Feasibility study completed by independent space consultant. Based on standards derived from the American Library Association a library of 9,786 sq./ft. was recommended.
• 2006-2007: A town building committee including the Town Manager, Select Board, Budget Committee, and Library Trustees developed a plan for the renovation and expansion of Whitney Hall which addressed the space needs of both the Library and Town Offices.
• This plan, which would have resulted in renovated library space of 7,446 sq. /ft., was defeated by Enfield voters at Town Meeting in 2007.
• 2006-2007: A second town building committee including Library Trustees, Town Librarian, and representatives of the Select Board and Budget Committee in consultation with community members developed a plan for a stand-alone building project adjacent to Whitney Hall.
• This effort resulted in a plan for a new two-story 7,500 sq. /ft. building
• 2008: By a nearly 3:1 margin, Enfield voters authorized $400,000 to develop architectural drawings and partially fund the construction of this building.
• 2014: Enfield voters approved the addition of the new library building to the list of projects eligible for TIF District funding to cover $150,000 in site improvements.
• To date, more than $485,000 has been committed by more than 400 individuals, businesses, and foundations toward the cost of the new building.

5. This writer believes that, as a minimum, the library is indeed in need of about 7,500 sq./ft. of reasonably efficient space such that the present day approximately 4,500 residents and 2,000 households can be better provided with library services. This will also allow future growth and changes in services to be better anticipated.

Preliminary Structural Evaluation: Whitney Hall

Plans Available:

- 1976 architectural renovation plans by Day and Ertman Architects.
- Nov. 1992 architectural plan sheet A1 by Trumbull-Nelson Construction Company (T-N).
- Sept. 1993 architectural plans and floor framing/structural plans by T-N.
- Note: The 1993 T-N plans indicate that "original" building plans were made available to them and were the "base plans" for their structural plans.

General Description of the Structural Systems:

Circa 1900 light-timber framed building with stone and brick foundations. Plans indicate floor structures consist of sawn 2"x8" and 2"x10" joists at 16" spacing and heavy timber beams. The 1993 plan showed and specified extensive reinforcing to 1st and 2nd floors and the theatre balcony by sistering joists with new lumber, adding engineered lumber joists in some areas, adding steel channels to some existing heavy timber beams, and adding new steel beams in some areas to make single-span joists into two-span joists. Limited observation of the roof framing revealed that sawn 2"x6" rafters at 18" spacing in the 21'-4" wide gable roof section which is north of the bell tower. Observation into the main roof's attic space was NOT done due to limited access and the limited scope of this evaluation.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good" with only a few noted issues (cited below). Though some maintenance and minor repair work is needed, no widespread structural issues were noted. Significant portions of the stone and brick foundations were visible and they too appear to be in good condition, with no signs of significant foundation settlement or bowing due to lateral soil pressure. Assessment of the floor framing was limited to what was available in the 1993 plans, as ceiling and floor finishes prevented direct observation of most of the floor framing. Limited observations of the roof framing revealed evidence of a past fire with many charred framing members. Framing for the stage floor was not observed or evaluated. Notes on the 1993 plans state: "Per order of the Selectmen, no additional work to be completed at the stage area at this time. The structural modifications are to be postponed pending budget and stage use review. The building inspector is to post the stage area limiting occupancy to existing capacity." The existing structural capacity of the stage is unknown.

Noted Issues of Structural Concern:

1. Moderate deterioration of mortar joints in the brick and stone foundations.
2. Minor surface spalling of the brick in some areas.
3. Broken hip rafter in the bell tower.
4. Minor sag noted in the main roof.
5. Sag in the "leading edge" of the theatre balcony.
6. Minor plaster cracking in the ceiling at the top of the stairs.

7. Deterioration and minor rot of wood siding in some areas due to minimal roof overhang. This is not a structural concern yet; it could develop into a structural concern if rot extends through the wood siding into the building's sheathing or framing.
8. Leaning granite curbing adjacent to the main stairs. This is likely trapping water against the building and contributing to mortar deterioration that was noted inside at the stairwell.

Approximate Floor Live Load Capacities and 2009 International Building Code Required (IBC) Capacity for Various Uses:

- Basement: Greater than 250 psf (concrete slab on grade floor).
- 1st Floor: varies from 80 to 100 psf.
- 2nd Floor: varies from 80 to 100 psf.
- Balcony: 150 psf.
- Offices: Offices = 50 psf; Corridors above 1st floor = 80 psf; 1st floor corridors & lobbies = 100 psf.
- Library: Reading Room = 60 psf; Stack rooms = 150 psf; Corridors above 1st floor = 80 psf. Assembly areas and theatres with moveable seats = 100 psf.
- Stage floors = 150 psf.
- Balcony = 100 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- 21'-4" Gable Roof at the West End = +100 psf.
- Main Roof is unknown.
- The Building Code Required Roof Snow Load = 34 psf where snow is unobstructed from sliding and 57 psf elsewhere.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Adding solar panels and/or insulation is NOT recommended until a more comprehensive structural evaluation of the main roof has been completed.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. More detailed structural evaluation of the main roof and stage.
2. Re-point the stone and brick masonry.
3. At the areas of spalled bricks, apply a high quality silane-siloxane penetrant that is 100% breathable and will not trap interior water vapor. Any such product should be applied in strict accordance with manufacturer's instructions and parameters for existing brick's ambient (temperature and moisture) conditions.
4. Replace or repair the broken hip rafter in the bell tower.
5. Fix the leaning granite, improve drainage and/or and install foundation waterproofing in this area.
6. Replace rotted wood siding and maintain the paint to prevent possible structural damage.
7. Locate and preserve the "original" building plans that were made available to T-N in 1993.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $104,400.
- Building: $353,300.
- Total Assessed Value: $457,700.

End of Sub-Section B-1: Whitney Hall

B-2: Police Facility

The Location

19 Main Street; Tax Map 34 / Lot 36; in the CB Community Business zoning district.

The Site

This existing site is situated on the easterly side of Main Street, a State owned public highway that is believed to be three (3) rods wide. The maintenance of Main Street is shared between the Town of Enfield and the State of New Hampshire. The Police Facility property is owned by the Town of Enfield, as evidenced by a Warranty Deed recorded in the Grafton County Registry of Deeds on June 5, 1984, Book 1507 / Page 763.

The overall configuration of the lot is that of a narrow and long rectangle, with 94.2 feet of street frontage by an average depth of approximately 334 feet, making for 0.7 acre of land area. The entire rear of the lot borders on the Mascoma River with approximately 105 linear feet of frontage. An eight (8) inch Town owned and maintained sanitary sewer main passes across the rear of this lot; and the property is served by this sewer main. Domestic water service is provided by an eight (8) inch main located in Main Street.

The topography of the lot drops down quickly from high ground adjacent to Main Street to a generally flat area that is the majority of the lot all of the way to the Mascoma River. Although the lot borders on the Mascoma River, only the very rear edge of the property is located within special flood hazard areas, as per the adopted town zoning ordinance and related flood maps. However, approximately two-thirds of the lot area (250 feet from the edge of the Mascoma River) is within the jurisdiction of the New Hampshire Shoreland Protection Act. And, there appears to be little if any pre-treatment of storm water run-off from the large paved parking area shared with the adjacent town owned Whitney Hall property located immediately to the south at 23 Main Street.

The Building

This detached “stand-alone” building was commissioned to be constructed in 1991 by the Town of Enfield as a facility to house the Town’s Police Department and several other municipal functions. At this time the only use of the building is for the Enfield Police Department. The other municipal functions that were at one time in the building have been relocated to the Public Works facility situated off of Lockehaven Road; there is, however, a moderate sized meeting room within the first floor area of the building that sometimes serves the municipal offices located within the lower level of adjacent Whitney Hall.

As the building faces Main Street, it is a single story facility of light-timber wood frame construction; however, like Whitney Hall beside it, because of the lot’s sharp slope downward toward the Mascoma River, a full walk out lower level renders the building a two-story structure on the backside. The main body of the building measures about 32 by 50-feet, with a side entrance and stair protrusion on the southerly side. The gross area of the building, less the open front porch, is about 1,676 square feet per floor. The building has a steep gabled roof with no usable attic space.

The overall condition of the building is good, as noted in the attached structural engineer's report. That report does highlight several points of concern with the building, the most noted being the presence of on-going storage within the attic space formed by the pre-fabricated wood roof trusses. It is clear that the building was not designed for storage of any kind within this attic area.

As to the terms of the New Hampshire Building Code (International Building Code), the present use of the existing building is Business Use Group "B" (Civic Administration). As to the terms of the State Fire Code (NFPA), the present use of the existing building is classified as "Existing Business". It is not clear if the building has any amount of fire ratings.

Per page 2 titled *Department Overview* of the *Town of Enfield Police Department Strategic Plan for 2019 – 2023* (Police SP), the Enfield Police Department presently consists of seven (7) full-time police officers including the Police Chief; one (1) full-time executive assistant; one (1) part-time police officer; and one (1) police assistant. The Department consists of two (2) divisions: the Patrol Division, and the Detectives Division.

Page 7 of the Police SP reports that in 2017 the Department made 9,786 service calls, responded to 146 motor vehicle crashes, made 4,574 traffic stops, made 150 arrests, and dealt with 111 criminal incidents including 1 homicide.

The final pages of the Police SP highlight current building deficiencies that directly impact work efficiencies and security. These areas of concern include the following:

1. New Hampshire Department of Labor rules require a secure barrier between the public and the initial contact position at a police station facility. Furthermore, police best practices, and NICS and NCIC, require security between the public and computer equipment with access to those important programs. As the building is presently laid out and configured, there is little or no security between the public, department personnel, equipment, or sensitive information. This is a serious problem that must be addressed.

2. Likewise, the Police Department's and the Town's shared information technology server is currently located in an unsecured area of the Police Facility. The present location of the server is above a hall doorway and in the boiler room of the building. For obvious reasons, it must be in a secure and dedicated room.

3. Every modern day police facility needs a secure and properly laid out evidence room. The current evidence room is not in compliance with DOJ, CALEA, or LE best practices. The chronic lack of space available for evidence prevents the Evidence Technician from following best police practices. What is now serving as the evidence room has maintenance, electrical, and heating panels to which outside vendors require access. This is in strict violation of the State adopted National Electric Code.

4. There is not adequate space within the present building for proper storage, meeting or training room activities.

5. The Department needs to have a secure outdoor area immediately adjacent to the facility for the impoundment of large items such as motor vehicles. Presently the Shedd Street

property serves that purpose, however, it is not secure and is nearly impossible to properly monitor.

In conclusion, the building is no longer adequate for the present day operations and longer term needs of the Enfield Police Department. Nor is there adequate floor area within the existing building to allow the department to function properly. Simply said, the Department has out grown the present building

Preliminary Structural Evaluation: Police Facility

Plans Available:

- July 26, 1991 Civil/Site, Architectural, Structural, M/E/P plans by Banwell Architects and Steffensen Engineering (structural).

General Description of the Structural Systems:

Light-timber framed building on cast-in-place concrete basement wall foundations. Plans indicate that the basement walls are typically 10" thick reinforced concrete with spread footings of various widths. The floor framing consists of 2x12's at 16" spacing spanning 12' to 16' from the north and south basement walls to steel girders and/or 8" concrete masonry unit (CMU) partition/bearing walls in the sallyport, garage and mechanical/electrical room areas. The roof is framed with "gang-nailed" prefabricated wood trusses spaced at 24" on center which clear-span the 32' width of the building.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good" with only a few noted issues (cited below). Of importance is the fact that the 8" CMU walls in the basement which separate the sallyport/garage bays and garage bays from the mechanical/electrical room and storage room are bearing walls. Conversely, all of the interior walls in the west end of the basement are partition walls. All of the interior walls on the first floor are partitions and are NOT load bearing walls.

Noted Issues of Structural Concern:

1. Extensive storage of files, equipment, etc. in the attic. The roof trusses were not designed for storage.
2. Missing bracing on the truss webs.
3. The significant movement of one of the pier foundations for the ramp on the north side of the building.

Approximate Floor Live Load Capacities:

- Basement: Greater than 250 psf (concrete slab on grade floor).
- First Floor: Varies from 65-95 psf in east end of the building over the sallyport/garage/ mechanical/electrical room areas, and 50 psf in west end of the building.

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Offices = 50 psf.
- Corridors above the first floor = 80 psf.
- First floor corridors & lobbies = 100 psf.
- Penal Institutions: Cell blocks = 40 psf, corridors = 100 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

Roof Truss Capacity is likely 40 to 50 psf, based upon the Ground Snow Load of 60 psf specified in the 1991 plans. Note: The 1991 plans did not specify the other factors such as "Importance", "Exposure" and "Slope", which can increase or decrease the Roof Snow Load. The plans also did not specify the unbalanced snow loading.

- Code Required Roof Snow Load = 69 psf.

  See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Adding solar panels and/or insulation is NOT recommended until a more comprehensive structural evaluation of the main roof has been completed and the roof is made compliant with the current Code's requirements for roof snow loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Remove all items stored in the attic space.
2. Add the bracing to the truss webs.
3. Complete a more detailed structural evaluation of the main roof and reinforce (if necessary) to meet current building code requirements for roof snow loads. Note: See the Introduction for discussions about structural Code requirements for existing buildings.
4. Replace the leaning pier on the ramp.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $123,200.
- Building: $228,300.
- Total Assessed Value: $351,500.

End of Sub-Section B-2: Police Facility

B-3: Public Works Facility

The Location

74 Lockehaven Road; Tax Map 11 / Lot 20-4; in the R1 Residential zoning district.

The Site

This existing site is situated on the westerly side of Lockehaven Road, a Town owned four (4) rod wide highway. The lot has approximately 512 feet of road frontage, and is approximately 1,262 feet deep. According to the Town's property assessment records, the lot size is approximately 27.3 acres in size.

The Town of Enfield acquired the existing land parcel by way of a tax deed, conducted by the Town of Enfield Tax Collector, where upon the property was deeded to the Town on April 27, 1992, for the sum of $1,122.47. This transaction is recorded in the Grafton County Registry of Deeds, Book 1975 / Page 525. On August 29, 1994 the Town of Enfield placed restrictions on a 7.25 acre area of the lot, as per a *Declaration of Covenants and Restrictions* filed in the Grafton County Registry of Deeds, Book 2107 / Page 291. This restricted area of the property must remain in perpetuity in its undeveloped, natural, and scenic state. No industrial, agricultural, commercial, mining, or logging activities are allowed; and no permanent structures can be built on this restricted 7.25 acre area. This restriction does not appear to hamper the reasonable use and further development of the most usable larger area of the lot.

The Building

The primary building on the site, which is the subject of this report, is a multi-use structure constructed about 2001 by the Town for the Enfield Public Works Department. A large wooden salt shed that also occupies the site will not be considered as part of this report.

The Public Works building is a single story, concrete slab on grade pre-engineered metal building with a mono-sloped roof pitching downward to the rear of the structure. The building measures approximately 70 by 292 feet, and therefore contains approximately 20,440 gross square feet.

This building, broadly speaking, serves two major functions for the Town's Public Works Department. It houses the department's administrative functions in an area that is approximately 70 by 85 feet, and equals approximately 5,950 gross square feet, or approximately 29.5 percent of the total building area. The remainder of the building area houses the department's equipment maintenance and storage needs. That area of the building, in two (2) sections, totals approximately 14,429 gross square feet, or approximately 70.5 percent of the total building area.

At this time the Town's planning, zoning, building code and inspection services are also located within the administrative area of the building. More typically these land use functions would be housed within an administrative municipal facility. Also contained in the administrative area of the building are several rooms used as meeting and assembly spaces. The administrative portion of the facility is an open wood framed storage mezzanine of undetermined area. Within the equipment shop area is an open steel framed storage mezzanine that measures approximately

15 by 30 feet, thereby approximately 450 gross square feet. The wood framed storage mezzanine is supported by a series of wood framed interior first floor walls.

As per the current New Hampshire Building Code (IBC - International Building Code), the present uses of the building are classified as follows:

- The administrative area = “B” Business (Civic Administration).
- The vehicular areas = “S-1” Moderate-Hazard Storage (Motor Vehicle Storage and Repair Garages).
- The meeting room / assembly areas, if 50 or more persons capacity = “A-3” Assembly (Community Halls).

As per the current State Fire Code (NFPA), the present uses of the building are classified as follows:

- The administrative area = Existing Business (Civic Administration).
- The vehicular areas = Storage Occupancies (Motor Vehicle Storage and Repair Garages).
- The meeting room / assembly areas, if 50 or more persons capacity = Existing Assembly (Community Halls).

Although the pre-engineered building shell is of steel construction without any fire rating, the amount of combustible interior wall and mezzanine framing used in the administrative and assembly area of the building has compromised the building code construction type classification from Type II-B (non-combustible / unprotected) down to Type V-B Combustible / unprotected. Given the overall size of the building, the amount of accessible perimeter around the building, and the lack of an automatic sprinkler system, it is not a building code (IBC) problem to have the Business and Storage uses in the same building with wood frame construction. However, the building code does require a two (2) hour fire separation between these two uses and the Assembly use of the building for meetings of 50 persons or greater.

The author of this report and the structural engineer generally found this building to be in good condition; however, the attached structural engineer’s report makes note of certain areas of concern.

In the future, when the building requires a new roof covering, extending the eave on the downward slope of the roof structure, along the full rear of the building, should be explored. An eave extension of two (2) feet could have been added at the time that the building was designed and constructed as a standard feature. This would have been of great benefit to the building’s longevity and lessened building maintenance. Nonetheless, this feature can be added at a future date; however, this should be done with input from the building manufacturer because there are important structural ramifications like wind uplift to the existing roof that must be taken into consideration.

On a positive note, based upon the pre-engineered manufacturer’s drawings for this steel building (VP Buildings / Varco-Pruden), the building was designed with expandable end walls. This theoretically makes it easier to place an addition of similar construction on either end of the building.

The building is equipped with a ducted forced hot air oil fired heating system. The building is not equipped with an automatic sprinkler system.

Preliminary Structural Evaluation: Public Works Facility

Plans Available:

- August 20, 2001 Structural (foundation & mezzanine) plans by Kimball Chase (a division of Hoyle Tanner & Associates).
- July 20, 2001 pre-engineered metal building plans/shop drawings by VP (Varco Pruden) Buildings, Inc.

General Description of the Structural Systems:

- 70'x 292' pre-engineered metal building with mono-sloped roof.
- Main building frames are spaced at 16' to 22' feet on center and which clear-span the 70' building dimension.
- 8" cast-in-place concrete frost-walls with integral piers & spread footings at the building frames and 8"x48" high concrete masonry unit (CMU, a.k.a. "block") perimeter "abuse walls."
- 6" concrete slab-on-grade floor.
- Mezzanines: the 15'x30' mezzanine shown in the plans is constructed of 1½" x 20 gauge composite steel deck with 8" CMU (block) bearing walls and W12x19 steel beams. Other mezzanines, not depicted in the plans, are constructed of 2x12 timber floor joists spaced at 12" on center and spanning 12.5 feet to 17 feet.

Note: For the purposes of this report, the front of the building is considered the West side.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good," but with the noted issues/concerns (cited below). Of importance is the fact that the 8" CMU walls around the mezzanine with concrete slab upper floor are bearing walls and that the 12" CMU wall separating the garage bays from the office area is a firewall. Additionally, many of the interior walls in the office areas serve as bearing walls for the wood-framed mezzanine.

Noted Issues of Structural Concern:

- Significant damage of the CMU "abuse wall" at the south end of the back wall, due to freeze-thaw cycles of roof run-off splashing onto the block.
- Damaged metal siding above the overhead door at the south end of the building.
- Shed roofs constructed on the back wall are imparting loads into the metal building framing for which it likely was not designed.
- It is unclear if all of the required metal building bracing was installed in accordance with the VP Building, Inc. plans and standard details.

Approximate Floor Live Load Capacities:

- First Floor: Greater than 500 psf (6" concrete slab on grade floor)
- Mezzanines:
    - 4" concrete slab on steel deck = 225 psf

- 2x12 timber framed floor: varies from 65-125 psf, depending upon 2x12 joist span

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Offices = 50 psf.
- Corridors above 1st floor = 80 psf.
- First floor corridors & lobbies = 100 psf.
- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- Design Roof Snow Load (as per the VP Building, Inc. Plans) = 54 psf
- Code Required Roof Snow Load = 63 psf

See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Though technically permissible by the Codes, adding solar panels and/or insulation is NOT recommended, since the building's design roof snow load is significantly less than the current Code's requirements for roof snow loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Replace the significantly deteriorated CMU's (blocks) on the back wall.
2. Along the entire back wall, apply a high quality silane-siloxane penetrant to the CMU. This product should be 100% breathable and not trap interior moisture. Any such product should be applied in strict accordance with manufacturer's instructions and parameters for existing block's ambient (temperature & moisture) conditions.
3. Check with the building manufacturer, VP Buildings, Inc., to verify whether or not the damaged siding has any structural implications for this building. Some manufacturers rely on the metal siding to provide critical lateral support to framing members and/or to contribute to the lateral load (wind & seismic) resistance capacity of the building.
4. Complete a more detailed evaluation of the shed roofs which are attached to the building and re-construct (if necessary) to make them self-standing structures.
5. Conduct a thorough review of the VP Building, Inc. plans/shop drawings versus the as-built conditions to verify that all of the purlins, bolts, and bracing that are shown in the plans are installed exactly as required by the plans. While there is no reason to suspect that the general contractor did not complete the work, pre-engineered metal buildings are notoriously susceptible to collapse under high loading conditions, and this is often a result of minor erection errors when the building was constructed. Many elements of a pre-engineered building are designed to work in conjunction with other components, and even a few missing bolts or braces can lead to serious or catastrophic structural failures.
6. Post signage in the mezzanine areas showing the load limits for specific areas of the mezzanine.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $395,200.
- Building: $1,290,800.
- Total Assessed Value: $1,686,000.

End of Sub-Section B-3: Public Works Facility

B-4: Union Street Fire Station

The Location

25 Union Street; Tax Map 34 / Lot 54; in the R1 Residential zoning district.

The Site

This existing site is situated on the northerly side of Union Street, a Town owned and maintained public highway that is 50 feet wide. The property is owned by the Town of Enfield, and consists of two (2) parcels acquired by two (2) separate transactions, as follows:

Parcel Number One

The original so-called H. P. Hood & Sons ("Hood") lot has 120.6 feet of frontage on Union Street, is 110.6 feet deep on its westerly side, and 97.6 feet deep on its easterly side, making for 0.29 acres. When this lot was first developed by H. P. Hood & Sons, this writer believes circa 1940, the rear of the lot bordered on land owned and controlled by the Boston & Maine Railroad Corporation ("B&MRR"). This original Hood lot consisted of two (2) smaller parcels acquired by Hood in May 1939. The B&MRR maintained a 2-inch water line located along the westerly side of the lot, running from Union Street to its passenger station facility situated on Depot Street. The development of the property by Hood was for the construction and operation of a bulk milk processing plant that shipped its product by rail; however, almost all of the foot-print area of the processing plant was built on railroad property by virtue of a lease from B&MRR. The Town of Enfield acquired the entire Hood lot and the milk processing plant building by way of a deed recorded in the Grafton County Registry of Deeds on April 5, 1961, Book 953 / Page 167.

Parcel Number Two

The Town of Enfield acquired the land upon which the former Hood milk processing plant was situated from the B&MRR by virtue of a Release Deed dated December 29, 1992, and recorded in the Grafton County Registry of Deeds Book 2008 / Page 0767. With this transaction came a rectangular configured piece of land with an average depth of 41 feet by an average width of 138 feet, making for 0.13 acre of land area.

For these two land parcels, the property as described by the various deeds matches what is shown by the Town's Tax Map. It is clear to this writer that all former ownership of railroad land and rights-of-way as it concerns this property have been properly addressed. With that said, the site plan prepared by H. P. Hood & Sons, circa 1940, shows a ten (10) foot wide right-of-way along the easterly side of the Town's property for the use of the adjacent lot, Tax Map 34 / Lot 55. This writer does not know if this ROW is still in place or has been extinguished. The total lot area of both parcels combined is approximately 20,985 square feet, or approximately 0.48 acre.

The property is served by an eight (8) inch Town owned and maintained water line that appears to pass through the property from Depot to Union Streets, and a 12 inch Town owned and maintained sanitary sewer line located adjacent to the site. There does not appear to be any on-site collection for treatment of storm water run-off.

The Building

The existing building is a single story concrete slab on grade, flat-roofed facility that consists of a main building constructed in 1940 by H. P. Hood & Sons as a creamery, and what appear to be three (3) subsequent additions to the original building made over the course of years. The gross area of the building is approximately 5,460 square feet.

The original 1940 creamery building is structural steel framed with light-timber framing infill on the walls, and wood plank roof. The three subsequent additions made to the building by the Enfield Fire Department since acquiring the property in 1961 are, to some degree, of wood frame construction. None of the building is believed to have any fire ratings and therefore, the New Hampshire Building Code considers the building to be of unprotected combustible construction. The building interior is protected by an automatic sprinkler system, but no fire alarm system. The building is heated with an oil-fired ducted forced hot air furnace supplied with an above ground interior 250 gallon oil supply tank. There is no vehicle exhaust evacuation system inside the equipment bays. The electrical service is aerial single- phase power.

Overall, the building appears to be architecturally and structurally in "good" condition, although certain things are noted in the attached structural engineer's report. The *Town of Enfield Fire Department: Strategic Plan for 2019-2023* document (FD SP) on pages 52 and 54, makes mention of the need of a roof replacement on this facility. Neither this writer nor the structural engineer made an inspection of the flat roof area.

As per the current New Hampshire Building Code (IBC - International Building Code), the present uses of the building are classified as follows:

- The administrative area = "B" Business (Civic Administration).
- The vehicular areas = "S-1" Moderate-Hazard Storage (Motor Vehicle Storage and Repair Garages).

As per the current State Fire Code (NFPA), the present uses of the building are classified as follows:

- The administrative area = Existing Business (Civic Administration).
- The vehicular areas = Storage Occupancies (Motor Vehicle Storage and Repair Garages).

As noted above, the property is located in the Town of Enfield's R1 Residential zoning district. Given the present use of the property, the adopted zoning ordinance classifies this use as "Public buildings, utility stations and other essential services facilities", a use allowed by a Special Exception from the Zoning Board of Adjustment. Presently, the use of this property by the Town as a fire station pre-dates the current zoning ordinance, and is therefore considered a pre-existing non-conforming use. Within the R1 Residential zoning district, where off-lot water and sewer are available, the minimum lot size requirement is one-half acre. This lot is 0.48 acre, slightly less than the minimum lot size required by the ordinance, and is therefore considered to be a pre-existing and non-conforming lot as to overall size.

Furthermore, the zoning ordinance requires a 20 foot front setback from Union Street and a 15 foot setback from the side or rear property lines. From the site data available at this time, it appears that the westerly side and the northerly rear of the existing building are located within the required setback areas, making for a pre-existing non-conforming situation were the property to be further developed.

At this time, the Union Street Station houses five (5) fire fighting vehicles and one (1) 14-feet long rescue boat on a trailer. The vehicles consist of two (2) engines (nos. 4 and 5), a rescue vehicle, a utility vehicle, and a command vehicle. The building is unable to house any additional similar pieces of equipment. The remainder of the Enfield Fire Department's equipment is presently stored at one of the two Shedd Street buildings and at the Enfield Center Fire Station. The 2019-2023 Strategic Plan states that at least four (4) wheeled pieces of equipment are presently stored at the Shedd Street property, and should be housed at the Union Street Station. These pieces of equipment are: a 6-wheel UTV, an ATV, a forestry vehicle, and a trailer-mounted electric generator. Having this equipment stored off-site at the Shedd Street premises is inefficient and generally not a good environment for the individual pieces of equipment.

The Enfield Fire Department currently consists of twenty-nine (29) call members: one (1) Chief; two (2) Assistant Chiefs; four (4) Captains; four (4) Lieutenants; and eighteen (18) Firefighters. Page 37 of the 2019-2023 Strategic Plan states the goal is to increase the number of available fire fighters from 29 to 40 by the year 2020. This obviously increases the need for better training facilities and familiarity with the department's equipment. In addition to increasing the force of trained fire fighters, page 36 of the plan states the need to upgrade building facilities to deploy fire equipment appropriately.

The Enfield Fire Department plays an integral role within the broader Upper Valley Mutual Aid network in general, and a very close Mutual Aid role with the neighboring communities of Lebanon and Canaan. Within Enfield's I-89 corridor the Lebanon Fire Department responds automatically to all calls. All fire calls within Enfield are dispatched by the Town of Hanover's Communication Center.

Since 2008, the volume of Enfield Fire Department calls has remained relatively consistent at about 140 calls a year. In 2017 there was a slight spike to this figure of 154 calls. Motor vehicle crashes constituted the greatest number of calls in 2017 with 37 incidents. Downed wire and alarm activation calls were at 15 incidents each. As to Mutual Aid calls, 8 were to Lebanon and 11 were to Canaan. North Woodstock (2), Grafton (1), Springfield (3), Hanover (1), Plainfield (1) and Grantham (3) were the remaining Mutual Aid calls to which Enfield responded.

Further expansion or re-development of this existing building, on this site, is very problematic given the type of construction of the building, the current New Hampshire Building Code that the Town is compelled to enforce, and the very limited lot size and configuration.

Preliminary Structural Evaluation

Plans Available:

- Undated "plot plan" by H.P. Hood & Sons Engineering Department.

General Description of the Structural Systems:

- Single story structural steel framed building with light-timber framing infill on the walls and plank roof.
- Foundations consist of 12" thick concrete frostwalls with portions of the walls extending above the slab-on-grade floor in many areas.
- The floor is a concrete slab-on-grade of unknown thickness.
- Three additions to the original building have been constructed, with the most recent being the 8' wide shed addition that runs along the back (north) side, which is constructed of conventional light timber framing, heavy timber posts, and multi-ply 2" rough-sawn lumber beams . Earlier additions of steel and wood framing were constructed on the front (south) and west sides of the building.
- A "hose tower" was constructed at the back center of the building at the west end of the shed addition using four telephone poles and pole-barn style construction.
- A +/- 40 feet tall brick chimney that appears to be part of the original construction, is located at the northeast corner of the building.

  Note: For the purposes of this report, the front of the building is considered the south side.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good" but with the issues/concerns that are cited below.

Noted Issues of Structural Concern:

- The condition of the brick chimney is considered to be "poor" with significant degradation of the mortar joints and minor degradation (spalling) of the brick.

Approximate Floor Live Load Capacities:

- Main Floor: Greater than 250 psf (concrete slab on grade floor of unknown thickness).
- Shed Addition's raised floor: 95 psf.

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Offices = 50 psf, Corridors above 1st floor = 80 psf.
- First floor corridors & lobbies = 100 psf.
- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

Roof Snow Load capacity is approximately 35-45 psf, based upon the size of the small roof beams and reasonable assumptions about the steel properties. The yield strength (Fy) of the

steel is unknown and detailed measurements of the main girder were unobtainable within the scope of this evaluation.

Code Required Roof Snow Load = 63 psf.

See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Though technically permissible by the Codes, adding solar panels and/or insulation is NOT recommended, since the building's design roof snow load is believed to be significantly less than the current Code's requirements for roof snow loads. A more comprehensive data collection effort and more detailed structural analysis of the roof are required to make a more definitive assessment of the roof and its ability to handle additional loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Repair or remove the brick chimney.
2. Perform a more detailed evaluation of the roof prior to changing the loading conditions on any portion of the roof.
3. Post signage in the shed addition's raised floor area specifying the Floor Live Load limits.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

• Land:	$112,500.
• Site Improvements:	$2,400.
• Building:	$155,200.
• Total Assessed Value:	$270,100.

End of Sub-Section B-4: Union Street Fire Station

B-5: Enfield Center Fire Station

The Location

1100 NH Route 4A; Tax Map 40 / Lot 15; in the R1 Residential zoning district.

The Site

This existing site is situated on the southerly side of the NH Route 4A with the rear of the lot bordering the Knox River. The property consists of two (2) land parcels, acquired by two (2) separate transactions. The first, or "primary," parcel was purchased by the Town of Enfield by virtue of a deed recorded in the Grafton County Registry of Deeds on June 2, 1953, Book 827 / Page 540. Per the deed description and the Town's Tax Map (Map 40), the lot has approximately 75 feet of road frontage on the public State of New Hampshire owned highway, and is approximately 105 feet deep, making for approximately 0.18 acre of land area. By virtue of a Quitclaim Deed recorded at the Registry on August 4, 2006, Book 331 / Page 0271, a triangular shaped parcel containing approximately 4,115 square feet was added along the eastern side of the original lot. This added 72.22 linear feet of road frontage to the original parcel. The Town's Tax Map for this property does not clearly reflect this additional land having been annexed to the original parcel.

The total lot area of this parcel as it presently exists is not entirely clear. The Town's assessment records state 14,134 square feet, however, language within the deeds that pertain to the parcel as presently configured only add up to approximately 11,955 square feet. There is a drilled well on-site for domestic water supply, and a New Hampshire Department of Environmental Services approved on-site septic system, installed about 1993. There are no issues known to this writer concerning these systems.

The Building

This building is a single story wood frame structure constructed in what appear to be four phases. The original building was constructed in 1953 and measured approximately 26 by 32 feet. Additions measuring approximately 26 by 30 feet, 16 by 42 feet, 10 by 20 feet, and 7 by 30 feet have subsequently been attached to the original 1953 structure. All of the construction is of light timber framing, including the various roof areas. The gross floor area of the existing building is approximately 2,424 square feet. It does not appear that the existing building has any amount of fire rating. Therefore, given the wood frame construction, the New Hampshire State Building Code considers the building to be of unprotected combustible construction.

Per the current New Hampshire Building Code (IBC - International Building Code), the present use of the building is classified as "S-1" Moderate-Hazard Storage (Motor Vehicle Storage and Repair Garages). Per the current State Fire Code (NFPA), the present use of the building is classified as Storage Occupancies (Motor Vehicle Storage and Repair Garages).

The building is not equipped with any type of automatic fire suppression (sprinkler) system, nor is there available water supply for same. And there is no fire alarm system installed within the building. Within the equipment storage bays there is no vehicle exhaust evacuation system. Electrical power is single phase aerial service; and the building is heated with a simple oil-fired

ducted hot air furnace, supplied by a 250 gallon above ground interior tank. No issues were noted concerning these systems.

Overall, this writer and the structural engineer found the building to be in fair condition, as noted in the structural engineer's attached report. The roof covering is corrugated metal and appears to be in good condition. The exterior walls are clad in a vinyl clapboard siding that also appears to be in generally good condition. Of most serious note is the present condition of certain areas of the existing concrete masonry foundation walls.

At this time the Enfield Center Fire Station houses four (4) pieces of firefighting equipment: an engine (Engine 3), a tank truck (Tanker 1), a utility vehicle (Car 3), and a retired engine (Engine 3) that is used as a parts vehicle for Engine 4 (which is housed at the Union Street Fire Station). The building is presently full and not able to house any additional pieces of equipment.

As noted above, the property is located in the Town of Enfield's R1 Residential zoning district. Given the present use of the property, the adopted zoning ordinance classifies the use as "Public buildings, utility stations and other essential services facilities", a use allowed by a Special Exception from the Zoning Board of Adjustment. Presently, the use of this property by the Town as a fire station pre-dates the current zoning ordinance, and is therefore considered a pre-existing non-conforming use. And, within the R1 Residential zoning district, where off-lot water and sewer are not available, the minimum lot size requirement is one acre. This present lot appears at best to be no more than about one-third of an acre and is therefore considered to be a pre-existing and non-conforming lot as to overall size. Furthermore, the zoning ordinance requires a 20 foot front setback from NH Route 4A, and a 15 foot setback from the side or rear property lines. It is difficult at this time to properly ascertain the actual setback distances. Additionally, because the zoning ordinance requires a minimum setback from the Knox River to the rear of the building, which clearly cannot be met, this makes for a pre-existing non-conforming situation were the property to be further developed. The Knox River is not considered to be a water body that comes under the jurisdiction of the State of New Hampshire's Shoreland Protection Act; therefore, the setback and regulatory requirements of that act are not applicable to this property – land or building.

Any further expansion or re-development of this property is very problematic at best, and may be well near impossible. From a practical point of view, given the overall lot size, the present building size, the need to maintain an on-lot water potable water supply and a proper sewage disposal system, the existing property appears to be utilized to the maximum extent possible.

Beyond these land use considerations are the various applicable areas of the State's building and fire codes that would apply to the building, and likely be very problematic, were anything more than maintenance and repair of the building to take place. Furthermore, any change of use of the building, from storage to some non-storage use, would be extremely difficult for the Town, and therefore probably not at all worthwhile. The take-away from this specific discussion is the realization that there is nothing to prevent the Town from continuing to use the building for storage of firefighting equipment, or other motor vehicles; but, anything more than that is highly problematic and unlikely.

Preliminary Structural Evaluation

Plans available:

- None.

General Description of the Structural Systems:

The original building consists of a 26'x32' single story, light timber framed structure with field-fabricated roof trusses and cast-in-place concrete frost walls with two courses of concrete masonry unit (CMU) curbs upon which the light-timber framed stud walls bear. Several additions to the original building have been constructed:

- 26'x30' light-timber framed addition was constructed on the rear of the original building and has gang-nail pre-fabricated timber roof trusses spaced at 24" on center.
- 16'x42' shed roof addition was constructed on the south side of the original building with 2x10 rafters spaced at 16" on center.
- 10'x20' light-timber framed, shed roof addition was constructed on the rear of the 26'x30' addition.
- 7'x30' shed roof addition on the south side of the 26'x30' addition.

All of the additions have similar concrete and CMU foundations as the original building. All of the floors are concrete slab-on-grade of unknown thickness.

Overall Conditions Assessment:

The overall structural condition of this building is considered "fair" with the noted issues/concerns (cited below).

Noted Issues of Structural Concern:

1. The condition of the CMU frost wall extensions is considered "fair" to "poor", with significant degradation of the CMU blocks and mortar joints noted in some areas.
2. Several members of the field-fabricated roof truss members have broken, but have been repaired.

Approximate Floor Live Load Capacities:

All floor areas: Greater than 250 psf (concrete slab on grade floor of unknown thickness)

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- Roof Snow Load capacity is approximately 40 psf for the shed roof on the south side and 88 psf for the truss roof of the original 26'x32' building.

- Code Required Roof Snow Loads:
    - South side shed roof = 62 psf for balanced loading, 93 psf for unbalanced loading (Code requires checking for snow blowing from one side of the roof to the opposite side).
- 26'x32' Original building roof trusses = 39 psf for balanced loading, 87 psf for unbalanced loading.

See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Based upon the available information, only the north side of the original 26'x32' building is known to be structurally suitable for the addition of solar panels.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

Repoint the CMU joints where needed and replace the significantly deteriorated CMU's (blocks).

Along the entire building perimeter, apply a high quality silane-siloxane penetrant to the exterior of the exposed CMU foundations. The product should be 100% breathable and not trap interior moisture. Any such product should be applied in strict accordance with manufacturer's instructions and parameters for existing block's ambient (temperature & moisture) conditions.

Perform a detailed structural evaluation of the roof areas not analyzed as part of this evaluation.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

• Land:	$64,700.
• Site Improvements:	$4,000.
• Building:	$85,900.
• Total Assessed Value:	$154,600.

End of Sub-Section B-5: Enfield Center Fire Station

B-6: Enfield Community Building

The Location

308 US Route 4; Tax Map 37 / Lot 35; in the CB Community Business zoning district.

The Site

This existing site is situated at the easterly side of the intersection of Main Street and US Route 4, both public highways owned by the State of New Hampshire. Route 4 is entirely maintained by the State while the maintenance of Main Street is shared between the State and the Town of Enfield. The lot has approximately 500 plus feet of frontage on each of the two public highways. There are presently two (2) established and well-defined vehicular curb cuts accessing the property from the public street.

The property is the site of not only the Enfield Community Building, but also of Huse Memorial Park – a public recreational space with a ball field, basketball court, children's playground, and the Pavilion Building. The Pavilion Building is a partially open sided, roofed, picnic structure that will be further discussed in sub-section B-8.

The land and buildings are owned by the Town of Enfield. The present-day lot appears to be a composite of an original gift of land willed by George Huse upon his death on July 2, 1897, to the Enfield Village Fire precinct, as follows:

> "I give to the Enfield Village Fire Precinct, all that tract of land that I own near to, around, and between the Methodist Meeting House, and the Mill Pond in said Enfield, to be kept forever as a park, for public use, for the benefit of the inhabitants of said Precinct to their use and benefit forever."

The Enfield Village Fire Precinct accepted the gift of land on January 6, 1898. This writer has not seen any deed that further describes the property other than what is described above; however, on page 235 of the Sanborn 2006 Enfield history book Mr. Huse's gift is described as "… *approximately three acres of land bordering the millpond, Main Street and Canaan Road* …".

During the past one hundred years it appears that at least four (4) separate land acquisition transactions added land area to the original parcel. They are recorded at the Grafton County Registry of Deeds, as follows:

- A land purchase recorded on June 19, 1939, Book 682 / Page 317.
- A second land purchase recorded on September 2, 1943, Book 715 / Page 60.
- A third land purchase recorded on December 28, 1999, Book 2439 / Page 440.

Some time after 1972 a fourth parcel, located with frontage on Main Street and adjacent to the Mascoma Bank property also on Main Street was added, however, this writer has not seen a deed for this piece.

Again quoting Sanborn, "In the early 1970's the town transferred Huse Park from the fire district to the town, and serious planning for improvements was started."

On April 5, 2002, acting upon an application filed by the Town of Enfield, the Planning Board approved the merger of the above land parcels into one (1) lot as it presently exists. This action was recorded in the Registry of Deeds. According to the Town's assessment records, the entire lot size is presently 2.74 acres. Based upon the information provided, attempting to reconstruct the current boundary and shape of this lot as it presently exists indicates several inaccuracies and questions. Therefore, it is strongly suggested that a full boundary survey by a land surveyor licensed in the State of New Hampshire be commissioned, and that the survey be recorded in the Grafton County Registry of Deeds.

The lot borders the Mascoma River along the rear southerly side, and an unnamed small brook runs along a portion of the easterly side of the lot. The lot is generally flat with about a 6-foot gradual drop from the two roads at the front of the property back to the bank of the Mascoma River. The River is about 8-feet below the level usable area of the lot. The top of the river bank is at approximately elevation 770 feet. The one-hundred year flood elevation of the Mascoma River in this area is at approximately elevation 769 feet. There appears to be a minimal amount of wetlands area on the property. Approximately two-thirds of the lot falls within the jurisdiction of the New Hampshire Shoreland Protection Act.

The property is served by a twelve (12) inch water line in US Route 4, and an eight (8) inch line in Main Street. An 8-inch sanitary sewer main is located in US Route 4 and as well as Main Street, and an 8-inch main passes across the rear of the lot. There do not appear to be any site improvements for handling storm water run-off. Other site improvements such as parking lot development, site lighting, landscaping, and curbing are minimal.

The Building

The existing building is a two level light-timber framed structure set on a poured in-place concrete foundation. The main body of the building, excluding the open front entry porch and the rear entry patio, measures approximately 40 by 70, equaling approximately 2,800 gross square feet per floor. Per the New Hampshire Building Code (IBC), the construction classification of the building is Type VB, combustible / unprotected.

The building was constructed about 2001 and was designed and intended as a community center and public meeting space. Per the New Hampshire Building Code (IBC) the use classification of both floor levels of the facility is "A-3" Assembly. And as per the State Fire Code (NFPA), the use classification is Existing Assembly.

Overall, the building and its mechanical, electrical, and plumbing (MEP) systems appear to be in very good condition, and no issues were noted by this writer. There were several observations made by the structural engineer that are noted in the following section of this report.

Preliminary Structural Evaluation: Enfield Community Building

Plans Available:

- April 28, 2001 architectural plans by Paul Mirski & Associates of Enfield, NH. Title block indicates plans were prepared for the Enfield Lions Club. Only sheets A1, A3, A5, S1 and S3 were available and were found in the basement mechanical room of the Community Building.

General Description of the Structural Systems:

Light-timber framed building on cast-in-place concrete basement/retaining wall foundations which extend 5'-6" above the basement floor slab and have 3'-9" high light-timber framed kneewalls on top. Plans indicate that the basement walls are typically 10" thick reinforced concrete with 2'-10" wide x 12" thick spread footing of various widths. The floor framing consists of 16" deep 4x2 wood floor trusses at 16" spacing spanning 20 feet from the east and west walls to a center (2) 1¾"x16" LVL beam. The LVL beam is supported on 5½" diameter steel posts ("lally columns" are stated in the plans) with post spacing generally from 12 feet to 14 feet.

The roof is framed with gang-nailed prefabricated wooden attic trusses at 24" spacing. At the north and south ends of the building the roof trusses are standard gable-style, and over the meeting room they are scissor trusses, which allow for the vaulted ceiling.

The lower level floor is a 4" concrete slab on grade.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good" with only a few noted issues (cited below). It is noted that all of the interior walls at both floor levels are non-load bearing walls. That said, all of these interior walls contribute to the lateral load (wind and seismic) resistance capacity of the building.

Noted Issues of Structural Concern:

1. Slight bow in the top of the foundation wall along the east wall. Preliminary structural calculations show that the foundation walls are structurally adequate for basic stability (sliding and overturning). The concrete wall's specified steel reinforcing (#4's each way at 12" on-center on the inside face) is insufficient, based upon reasonable assumptions about soil properties.
2. Sheet rock cracks in the wall corners where the ceiling meets the walls in the main hall area.
3. Deterioration of the exterior concrete ramp at the railing posts, likely due to rusting and expansion of the posts' embedded anchors.
4. Deterioration and missing stone veneer on the exterior concrete ramp.

Approximate Floor Live Load Capacities:

- Basement Level: Greater than 250 psf (concrete slab on grade floor).
- Main Floor: Approximately 50 psf, based upon the maximum span of the LVL beam. The capacity of the floor trusses is unknown.

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Offices = 50 psf.
- First floor corridors & lobbies = 100 psf.
- Assembly areas with moveable seats = 100 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

A structural analysis of the roof trusses was not performed. However, the Roof Snow Load Capacity is likely 40 to 45 psf, based upon the Ground Snow Load of 60 psf typically specified for Enfield prior to 2002.

Note: The 2001 plans did not specify roof snow loading requirements for the design of the roof trusses.

Code Required Roof Snow Load = 47psf for balanced loading, and varies from 47 to 86 psf for unbalanced loading (Code requires checking for snow blowing from one side of the roof to the opposite side).

See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Adding solar panels and/or insulation is NOT recommended until a more comprehensive structural evaluation of the roof has been completed and the roof is made compliant with the current Code's requirements for Roof Snow Loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Contact Paul Mirski and/or the Enfield Lions Club to determine if a complete set of the plans and construction documents is available. If they are available, get a copy and file/store them in a safe and known location.
2. Complete a more detailed structural evaluation of the main roof and reinforce (if necessary) to meet current Code requirements for roof snow loads and to address any other issues noted.
3. Post the occupancy limit of the main floor to prevent over-loading of the floor structure when the building is used for assembly purposes.
4. Seal all cracks in the existing concrete ramp to prevent water intrusion and the subsequent damage caused by freeze-thaw action on the concrete.
5. Repair the stone veneer and then apply a high quality silane-siloxane penetrant to the exterior of the exposed CMU foundations. The product should be 100% breathable and not trap interior moisture.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $383,600.
- Building: $567,300.
- Total Assessed Value: $950,900.

End of Sub-Section B-6: Enfield Community Building

B-7: Depot Street Station

The Location

18 Depot Street; Tax Map 34 / Lot 48; in the CB Community Business zoning district.

The Site

This site is situated on the southerly side of Depot Street, a Town owned and maintained public highway that is of undetermined width. It is clear that the land parcel is owned by the State of New Hampshire, as part of the State's Northern Railtrail land holdings. Prior to the State acquiring ownership of the land parcel, it was owned by the Boston & Maine Railroad Corporation. This specific land parcel is an existing sub-divided, stand-alone lot that, as per the Town's Tax Maps, is roughly rectangular in overall configuration. It has an average depth of 46 feet by an average width of 315 feet for a total of approximately 14,490 square feet, or 0.332 acre. The frontage on Depot Street is 320 feet. The rear of the lot is 310 feet in length and borders on the Northern Railtrail. Prior to the Northern Railtrail, this was an active railroad line that connected Concord, New Hampshire and White River Junction, Vermont. All traces of the former railroad track infrastructure have since been removed and the Northern Railtrail is an actively used public recreational asset. According to a Bill of Sale recorded in the Grafton County Registry of Deeds on May 22, 1995, Book 2146 / Page 0433, the Town of Enfield has a long standing lease on this land parcel.

The land that makes up this lot is generally flat, however, not very well drained. There is some amount of paved area and gravel parking. Remnants of old railroad improvements such as stone granite trackside platform curbing and pavement are still present. The property is served by an eight (8) inch municipal water main and an eight (8) inch sanitary sewer line. There do not appear to be any on-site storm sewer collection or treatment improvements present.

The Building

The existing building is a single story, hipped roof wood frame structure originally built circa 1900 by the Boston & Maine Railroad as a passenger station. The overall dimensions of the building are approximately 60 by 26 feet. A small bay window is on the south side of the building which originally faced the now removed railroad tracks. The gross footprint area of the building is approximately 1,448 square feet. Around the full perimeter of the building is a broad roof overhang that extends from the face of the exterior walls by approximately 5 feet.

In the years since the building was last used by the railroad as a passenger station, it has undergone some amount of change. An amount of original interior walls have been removed. This writer understands that the building was converted to house a fuel oil distributor who parked motor vehicles inside the building. To accommodate parking trucks inside the building, the original wood framed first floor system was reinforced with the addition of new steel beams and columns and a 4-inch +/- thick concrete slab was poured across the existing wood floor. The Town of Enfield has owned the building since this conversion and has most recently used it for housing the Town's ambulance service.

Per the terms of the New Hampshire Building Code (IBC), the building's construction type is classified as Type VB, combustible / unprotected. The use is classified as "S-1" Moderate-Hazard Storage. Per the State Fire Code, the use is classified as Storage Occupancies.

At this time, a single overhead garage door allows parking for a single vehicle inside. The remainder of the first floor area is used for EMS storage, and meeting and training rooms. The building's attic, although accessible via a ladder and ceiling hatch, is currently vacant and unused space. It is clear that this attic space was never intended for anything more. The building has a full unfinished basement area, accessible by an inside wood stair, that houses the building's heating equipment. Because of ongoing water and dampness issues, it is and should remain otherwise unoccupied.

Structurally, the engineer's report finds the building to be in "fair to poor" condition. A brief description of the building's structural materials and methods of construction is in the Structural Engineer's attached report, and therefore will not be repeated here. Preliminary structural analysis indicates that there are no structural floor loading issues with the building as it is currently used; however, it appears that the roof structure is under-framed as per current building code requirements for snow loading. It is important to point out that the roof framing does not have any structural capacity to accommodate roof mounted solar panels or the like. Also noted was the amount of ground water freely weeping through the stone masonry foundation walls into the basement area that is being handled by a sump pump. During the time of our relatively short October 29th site visit, the sump pump cycled on several times to discharge water that had accumulated within the basement area.

Architecturally, the existing structure presents a mixed overview. Although the building could be considered for some amount of historic recognition, at this time there have been no such formal actions or designations taken. With the exception of the northerly facing side of the building, towards Depot Street, where modern-day exterior overhead and pass doors have been installed, the elevations of the building remain very much unaltered and feature much of the buildings original historic fabric of sawn shingles and wood trim. In general, historically or otherwise, the exterior of the building is in good overall condition.

The building's roof ridge line and hips appear to be straight and in acceptable condition, and the asphalt shingles appear to be somewhat recently installed and in very good condition.

As to the building's interior, in spite of the removal of some of the original partitioning, most of the original wall and ceiling finish (tongue and groove beaded matched boarding) remains in place and is overall in good condition. With that said, there appears to be little in the way of insulation in the exterior walls that comes anywhere near meeting current day required or recommended levels. The same is most probably true regarding the ceiling / roof areas of the building.

The building's heating system is a simple propane fired hot air furnace with associated duct work for distribution. It is believed that the furnace was replaced about six years ago; however, the associated duct work is in very poor condition and needs to be replaced. The heating system does not appear to be very efficient and does not offer the ability to add air conditioning. Electrical service is by aerial single phase power.

The building does not appear to have fire ratings of any kind, nor is the building equipped with any manner of fire suppression system (i. e: automatic sprinkler system), nor any fire alarm system. And there is no vehicle exhaust evacuation system within the equipment bay area.

Additionally the property is located in the Town of Enfield's CB Community Business zoning district. Given the present use of the property, the adopted zoning ordinance classifies the use as "Public buildings, utility stations and other essential services facilities", a permitted use. However, given the current lot size of 0.332 acre, and the minimum lot size required by the ordinance where off-lot water and sewer are available of one-half acre, the property is considered as a pre-existing and non-conforming lot. Furthermore, the zoning ordinance requires a 30 foot front setback on Depot Street and a 20 foot setback from the side or rear property lines. What this means is that, even if the Town of Enfield owned the lot that this building sites on, further development (building expansion) of the property is extremely problematic and very unlikely. Per the terms of the adopted zoning ordinance, any alterations or conversions of uses on this property will require Site Plan approval from the Enfield Planning Board. There is, however, a State Statute that exempts State and local governments from necessarily having to follow most local land use rules and regulations.

There is no denying that from a historical point of view, this individual building, as a stand-alone piece, has character and merits some amount of consideration. And, certainly the building has some good amount of life expectancy left, assuming that it is properly used and maintained over in the years to come. However, with that said, this writer finds the present Depot Street Station no longer usable for the tasks at hand, the present day needs of the Town, or offering any potential for long term expansion and greater utility. To believe otherwise is to not properly utilize this report and not utilize tax payer municipal revenues to achieve, within reason, the greatest possible long term value, for the Town of Enfield. Consider the following:

1. The Town of Enfield owns only the building, not the land parcel that it sits on.
2. Even if it is possible for the Town to acquire the land parcel from the State of New Hampshire, the overall configuration of the lot and any adjacent areas render any options for expansion of the existing building as very limited and extremely problematic.
3. Any substantive alterations or additions to the existing building will require addressing existing troublesome foundation drainage issues, meeting certain structural and other building code considerations as they would apply to the existing building, and the installation of new mechanical, electrical, and plumbing systems throughout.
4. This writer has reviewed the document titled *Town of Enfield Ambulance Service; Strategic Plan for 2019 – 2013.* The plan makes plainly clear several critically important points:
    - *a.* The basic current needs of a suitable ambulance / Fast Squad facility are:
        - *i.* Administrative area.
        - *ii.* Training area that meets State of New Hampshire standards.
        - *iii.* Storage areas for the ambulance, supplies, and equipment.
    - *b.* At this time, most notably, the present facility is:
        - *i.* Generally undersized.
        - *ii.* Does not provide sufficient training room area to meet mandatory State standards.
        - *iii.* Does not provide secure storage for medical supplies.
        - *iv.* Does not allow for more than one (1) vehicle to be stored inside the facility at any one time.
        - *v.* The Strategic Plan makes mention now and /or in the future the need to have possibly two (2) full time ambulance positions. The present facility is totally unable to meet that need.

Preliminary Structural Evaluation

Plans Available:

- None

General Description of the Structural Systems:

Circa 1900 train station with light and heavy-timber framed floors and roof, 2”x4” balloon-framed stud walls, and with mortared stone and basement foundation walls.

The roof consists of 2”x8” rafters with 22” spacing which bear upon 4x4 timber “plates” at the top of the balloon-framed walls. The rafters have collar ties located 3 feet above the plate height and also have 5 feet long eaves. The attic floor/main level ceiling is comprised of 2”x8” joists which have diagonal braces back to the rafters, allowing the ceiling to clear span the 26’ building width.

The floor is framed with 2”x8” joists spaced at 16”, with board sheathing, plywood underlayment, and 4” concrete slab on top. The joists originally spanned 13’ feet from the north and south basement walls to a center 8”x8” timber beam. Two lines of 6” deep steel beams have been added and which are supported on steel Lally columns and “tele-posts” (adjustable height renovation columns) spaced at approximately 5.5 feet. The 8”x8” timber beam is supported on original brick columns spaced at 11 feet on center, with steel Lally columns added at mid-spacing of the brick columns.

The perimeter foundation consists of cut and mortared stone and brick basement walls. The stone extends 6’-4” above the basement floor slab with 1’-6” of brick on top of the stone.

The basement floor is a concrete slab of unknown thickness

Overall Conditions Assessment:

The overall structural condition of this building is considered “fair to poor” with the noted issues of structural concern as follows:

1. Water freely enters the basement area and is being managed with sump pumps.
2. Extensive and significant rusting of the steel posts and beams in the basement area. This is of greatest concern with the “tele-posts” which are constructed of relative thin steel and rely upon steel pins bearing on the posts’ thin steel walls.
3. Use of tele-posts as the permanent structural support. These are intended for temporary use only.
4. Significant deterioration of the exterior brick and mortar joints.
5. Minor deterioration of the interior brick and the brick and stone mortar joints.

Approximate Floor Live Load Capacities:

- Basement: Greater than 250 psf (concrete slab on grade floor).
- Main Floor: Greater than 250 psf.

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Offices = 50 psf.
- First floor corridors & lobbies = 100 psf.

- Assembly areas with moveable seats = 100 psf.
- Garages: Passenger vehicles only = 40 psf, heavier vehicle require specific analysis.
- Storage:
    - Light = 150 psf.
    - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- Existing Roof Snow Load Capacity = 20 psf.
- Building code required snow load = 63 psf for balanced loading, and 89 psf for unbalanced loading. The building code requires checking for snow blowing from one side of the roof to the opposite side.

  See introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building's Roof.

Adding solar panels and/or insulation is NOT recommended given the non-compliance with the current Code's requirements for roof snow loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Replace all of the existing "tele-posts" with 4" diameter (outer diameter) concrete filled, steel Lally columns.
2. Wire brush, clean, and then paint all of the rusted steel beams and posts with a zinc-rich primer.
3. Re-point the stone & brick masonry.
4. At the areas of spalled bricks, apply a high quality silane-siloxane penetrant that is 100% breathable and does not trap interior water vapor. Any such product should be applied in strict accordance with manufacturer's instructions and parameters for existing brick's ambient (temperature and moisture) conditions.
5. Reinforce the existing roof structure to meet the current Code's roof snow loading requirements. Alternatively, develop and implement a snow removal plan which allows no more than 12" of heavy, wet snow or 24" of light, dry snow to accumulate on the roof while the building is occupied.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $68,000.
- Building: $9,600.
- Total Assessed Value: $77,600.

End of Sub-Section B-7: Depot Street Station

B-8: Pavilion Building

The Location

308 US Route 4; Tax Map 37 / Lot 35; in the CB Community Business zoning district.

The Site

See the site description in sub-section B-6 *Enfield Community Building*. Both of these facilities share the same site.

The Building

This building is a single story wood frame structure with a fully enclosed portion that measures approximately 24 by 24 feet that is used for storage, and an open sided portion measuring approximately 24 by 48 feet that is used as a roofed picnic shelter. The total foot print area of the facility is approximately 1,728 gross square feet.

The building has no plumbing, mechanical (heating and ventilating), nor fire protection systems. Nor does the structure have any fire ratings.

This writer and the consulting structural engineer found this facility to be in generally fair condition; and the engineer's report follows.

Preliminary Structural Evaluation: Pavilion Building

Plans Available:

- None

General Description of the Structural Systems:

24'x24' light-timber framed building on cast-in-place concrete frost walls and an attached 24'x48' open-air canopy roof/picnic shelter. The walls of the building consist of 2x6's at 24" spacing and which are sheathed with T1-11 plywood/siding on the exterior and oriented strand board (OSB) on the interior. The roof of both the building and the open-structure are framed with "gang-nailed" prefabricated wood trusses spaced at 24" on center which clear-span the 24' width of the building. The post and beam framing of the open shelter consists of 6x6 pressure treated posts spaced at 12 feet on center and 5¼"x11-7/8" deep parallel strand lumber (PSL) beams. The posts have steel, saddle-type hangers at the top for the beams and have two steel "clip angles" at the base connecting the post bottoms to the concrete slab floor.

It appears that the foundation for the building consists of cast-in-place concrete frost walls and a concrete slab-on-grade floor of unknown thickness. The floor for the open structure is a concrete slab-on-grade, but it is unknown if there are perimeter frost walls below the slab edge, or if the slab edge is thickened and serves as the footing for the posts.

Overall Conditions Assessment:

The overall structural condition of this building is considered "fair" with the noted issues of structural concern cited below:

1. Significant rot and deterioration of the T1-11 siding in some areas along the bottom of the walls.
2. The 2x3 compression webs (the diagonals) of the roof trusses are not braced. This significantly reduces the roof snow load capacity.
3. Minor rusting of the steel clip angles at the post bases. Some of these clips and the post bases are partially buried or covered with dirt, promoting rusting of the steel and rotting of the wood.
4. Extensive cracking of the exterior concrete slab-on-grade.
5. Minimal lateral load (wind & seismic) capacity of the open-structure. Typically, structures such as these have knee braces to create a rigid connection at the top of the post, which provides lateral stability to these types of structures.

Approximate Floor Live Load Capacities:

Greater than 250 psf (concrete slab on grade floor).

2009 International Building Code Required (IBC) Capacity for Various Uses:

- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.
  - Pedestrian Yards = 100 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- Roof Truss Capacity is likely 20 psf in its current state with un-braced compression webs. If the webs are properly braced, the roof snow load capacity increases to greater than 80 psf.
- The Building Code Required Roof Snow Load = 37 psf, balance loading condition and 37-63 psf for unbalanced loading. The Code requires checking for snow blowing from one side of the roof to the opposite side.

  Note: The Code required snow loads cited herein assumes these are unheated structures (Ct=1.2) but are low hazard structures (Importance factor = 0.8) given they are primarily unused in the winter except for storage.

  See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building's Roof.

If the compression webs of the roof trusses are properly braced, adding solar panels and/or insulation is viable.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Replace any T1-11 siding that has rotted to the point where the nailed connections to the wall sole plate has been compromised. In all other areas, scrape, prime and paint the T1-11 siding to inhibit further rot.
2. Add compression web bracing to the roof trusses and ensure that the new web braces have the requisite cross bracing.
3. Remove all dirt from around the post bases and ensure proper drainage away from the concrete slab.
4. Seal all cracks in the existing exterior concrete slab to prevent water intrusion and the subsequent damage caused by freeze-thaw action on the concrete.
5. Complete a more detailed evaluation to determine the quantity and location of knee braces required to prevent collapse under the Code required wind loads for a "low risk" structure.

   Note: It is assumed that this facility will NOT be occupied during extreme weather events.

Assessed Value of the Property

The Town of Enfield's property assessment records do not list a separate value for this building.

End of Sub-Section B-8: Pavilion Building

B-9: Shedd Street Garages

The Location

7 and 15 Shedd Street; Tax Map 34 / Lots 60 and 61; in the R1 Residential zoning district.

The Site

This existing site is situated on the northerly side of Shedd Street, a Town owned and maintained public highway that is of undocumented width. The Town's GIS mapping system measures the right-of-way at 40 feet. The property is owned by the Town of Enfield and is, in fact, two (2) separate but adjacent lots as per the Town's Tax Maps and deeds recorded in the Grafton County Registry of Deeds. The westerly parcel, Map 34 / Lot 60 at7 Shedd Street, is roughly rectangular in overall configuration, with an average depth of 167 feet by an average width of 317 feet. It is accurately described by a warranty deed recorded April 29, 1980 at the Registry of Deeds, Book 1396 / Page 782. The easterly adjacent parcel, Map 34 / Lot 61 at 15 Shedd Street, is more square in its overall configuration, with an average depth of 207 feet by an average width of 204 feet.

The property is served by a six (6) inch water line and an eight (8) inch sanitary sewer line, both Town-owned and maintained, located in Shedd Street. There are currently no provisions for on-site storm water collection or treatment.

Although the property does not border on the Mascoma River, the northerly sides of the two parcels are within the jurisdiction of the State of New Hampshire's Shoreland Protection Act, the reach of which is 250 feet from the adjacent bank of the Mascoma River.

For purposes of this report, the two lots will be considered as one.

The Buildings

There are two (2) existing primary buildings on this property and several old sheds that are in very poor condition. Due to the condition of those sheds, they will not be considered in this report.

The westerly building located at 7 Shedd Street is presently not in use, nor should it be. The condition is very poor to the point of being totally unsafe. The core of the single story building is constructed of concrete masonry units (CMU or "concrete block") and measures approximately 50 by 53 feet. It is believed that this structure was originally constructed as a lumber drying kiln – perhaps 70 or so years ago. As first constructed, it had a flat roof. Later, two light-timber framed additions were made to the building – one on either side and of approximately the same size. At that time, a pitched gable roof constructed using pre-fabricated wood trusses was added to the original building. The last use of the building appears to have been as a maintenance and repair shop.

Among other noted serious issues concerning the building is the significant cracking and movement in the CMU walls. Furthermore, roof leaks and rot are noted in the building along with other multiple issues. Therefore, this report finds absolutely no value at all in this building. It is, in fact, a liability for the Town if it is not completely razed and removed from the site.

The second easterly building on this site, located at 15 Shedd Street, is a single story wood framed garage building in somewhat better condition than the 7 Shedd Street building. The original core of the building measures approximately 56 by 61 feet. At some later date two (2) small additions were made to the rear of the building. A trussed gable roof of moderate pitch covers the building. The total gross area of the entire building is approximately 3,760 square feet. This writer and the consulting structural engineer determined the overall condition to be fair, as per the engineer's attached report.

At this time, the building is being used to house firefighting equipment that, because of space limitations, cannot be stored at the Union Street Fire Station. A single wide overhead door on the southerly gable end of the building is the only means of getting equipment in or out of the building, and is clearly very inefficient. Because of the building's overall condition, and aspects of the roof structure as noted in the engineer's report, this building is viewed as very poor storage at best. Although this report is not suggesting that the building is in danger of collapse, it is clear that there is only minimal life expectancy and utility left in this Town-owned facility. Furthermore, this writer understands that the present hot air furnace heating system in the building is in need of replacement. Additionally, serious drainage issues were noted around the building's perimeter.

As the structural engineer's report highlights, this building should be closely monitored for any change in conditions that indicate worsening structural state and possible building failure.

Preliminary Structural Evaluation: 7 Shedd Street

Plans Available:

None.

General Description of the Structural Systems:

The original building appears to consist of a 50'x53' single story structure with a flat roof and concrete masonry unit (CMU) walls. A second, gable style roof using gang-nail pre-fabricated timber roof trusses was added onto this building, as were two light-timber framed shed additions on each of the east and west sides. The addition on the west side is 20' wide and has a roof framed with 2x10 rafters spaced at 48" on center. The east addition is 14' wide and has a roof framed with 2x6's at 24" on center.

The original 50'x53' building is split into two bays by a CMU wall. The east bay has a concrete slab-on-grade floor. The other bay and the two additions have dirt floors.

Note: The west addition was not accessible at the time of the site visit.

Overall Conditions Assessment:

The overall structural condition of this building is considered "poor" to "unsafe" with the noted issues of structural concern as follows:

1. The condition of the CMU walls is very poor with major step cracking throughout the structure. Some cracks have been repaired and have re-cracked through the repairs. This indicates on-going structural movement.
2. Cracked, heaved and uneven floor in the bay with the concrete slab-on-grade.
3. Roof leaks and likely rot in the east addition.
4. Minor to significant rot of the wood siding.

Approximate Floor Live Load Capacities:

- All floor areas: Greater than 250 psf (concrete slab on grade floor of unknown thickness, or dirt floor).

2009 International Building Code Required (IBC) Floor Live Capacity for Various Uses:

- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load - Roof Snow Load Capacities:

- Main 50' building with truss roof: Unknown.
- West addition: LESS THAN 10 PSF.
- East addition: Approximately 10 psf.

Code Required Roof Snow Load:

- 44 psf for balanced loading.
- 44 to 88 psf for unbalanced loading. Code requires checking for snow blowing from one side of the roof to the opposite side.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Adding solar panels to these roofs is NOT recommended due to the known low snow load capacity of the additions' shed roofs and unknown roof snow load capacity of the main building roof.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Given the current condition of this building, significant investment into building improvements is likely not cost effective.
2. If it is intended to continue using these buildings for unoccupied uses such as storage, a more comprehensive structural assessment of the main building's roof is required. At a minimum, significant roof reinforcements to the additions' roofs are needed in order to safeguard the building contents. Until roof reinforcements are completed, the building should not be occupied if there is snow on the roof.
3. This building should be closely monitored for any change in conditions that indicates significantly worsening conditions and/or imminent structural failure.

Preliminary Structural Evaluation: 15 Shedd Street

Plans Available:

- None.

General Description of the Structural Systems:

The original building appears to consist of a 36'x60' single story, gable-style roof structure with two small additions on the back of the building. The walls of the main building consist of 2"x6" studs spaced at 16" on center, with 4"x6" posts at 12' on center. These posts support inverted queen-post roof trusses spaces at 12' on center. 2"x6" rafters spaced at 24" on center provide infill-framing between the trusses. Roof framing for the additions is unknown.

The building foundations appear to consist of cast-in-place concrete frost walls and the floor is concrete slab-on-grade.

Overall Conditions Assessment:

The overall structural condition of this building is considered "fair" with the noted issues of structural concern as follows:

1. Rotted framing and exterior siding noted at the southwest building corner.
2. Very low roof snow load capacity (see below).

Approximate Floor Live Load Capacities:

All floor areas: Greater than 250 psf (concrete slab on grade floor of unknown thickness)

2009 International Building Code Required (IBC) Floor Live Capacity for Various Uses:

- Storage:
  - Light = 125 psf.
  - Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load - Roof Snow Load Capacities:

- 2"x6" rafters in the Main building: 5 to 10 psf.
- Code Required Roof Snow Load = 40 psf for balanced loading and 60 psf for unbalanced loading.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building Roofs:

Adding solar panels to these roofs is NOT recommended due to the known low snow load capacity.

Conclusions and Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Repair or replace the rotted framing in the southwest corner.
2. Lower the ground surface and improve the drainage around the building; 6" minimum from ground surface to wood framing or siding and a slope of 6"/10' away from the building is recommended.

3. If the intention is to continue using this building for unoccupied uses such as storage, a more comprehensive structural assessment of the main building's roof is required. As a minimum, significant roof reinforcements to the roofs rafters will be required in order to safeguard the building contents. Until roof reinforcements are completed, the building should not be occupied if there is snow on the roof.
4. This building should be closely monitored for any change in conditions that indicates significantly worsening conditions and imminent structural failure.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the two properties:

- Land:
  - 7 Shedd Street: $130,400.
  - 15 Shedd Street: $125,800.
  - Sub-Total: $256,200.

- Buildings:
  - 7 Shedd Street: $54,300.
  - 15 Shedd Street: $84,100.
  - Sub-Total: $138,400.

- Total Assessed Value: $394,600.

End of Sub-Section B-9: Shedd Street Garages

B-10: Transfer Station

The Location

39 Lockehaven Road; Tax Map 15 / Lot 72; in the R1 Residential zoning district.

The Site

The site is situated on the northerly side of the highway. This parcel has approximately 774 feet of road frontage and is approximately 222 feet deep at its greatest point. The lot area is approximately three (3) acres. The Town of Enfield owns this lot by virtue of a deed recorded at the Grafton County Registry of Deeds on February 2, 1948; Book 763 / Page 263.

The only use being made of the site is for the Town's transfer station. As such, numerous site improvements have been made over the course of years to accommodate at first what was an open town dump. Later, after the dump operation was closed, the site was updated to accommodate the transfer of trash into compacting machinery, as well as the Town's recycling operation. In addition to driveway and parking areas, site improvements have included chain link security fencing, an entrance gate, and electrical power.

The Buildings

Presently three small structures exist on the site: an operator's booth type structure associated with the trash compaction equipment, a mobile enclosed office trailer of moderate size, and a modest garage type facility. It is the garage structure that this report examined.

This building is a single story garage structure that appears to be of panelized light-timber wood frame construction, probably with pre-fabricated light-timber wood roof trusses. The building is placed on either a concrete floor slab supported by poured in place concrete frost walls or, very possibly, a floating "Alaska" concrete slab.

The building is presently being used for storage without plumbing or mechanical systems. Overall this writer and the consulting structural engineer determined the condition of the building to be good and no substantive issues were noted. With the appropriate amount of maintenance over the coming years, there is no reason why this individual building and the other improvements to this site, functioning as a transfer station, will not continue to provide the Town of Enfield with a good level of service. This writer finds the location of this facility within the Town to be very favorable.

Preliminary Structural Evaluation

Plans Available:

None.

Note: Access into this building was not obtained. Observations were limited to the outside.

General Description of the Structural Systems:

24'x24' light-timber framed building on cast-in-place concrete frost walls or concrete slab-on-grade foundation and floor.

Overall Conditions Assessment:

The overall structural condition of this building is considered "good", but is based upon very limited observations.

Noted Issues of Structural Concern:

None.

Approximate Floor Live Load Capacities:

Greater than 250 psf (assuming concrete slab on grade floor).

2009 International Building Code Required (IBC) Capacity for Various Uses:

Storage:

- Light = 125 psf.
- Heavy = 250 psf.

Approximate Roof Snow Load Capacity and NH Building Code Required Snow Load - Roof Snow Load Capacity:

- Unknown
- Code Required Roof Snow Load = 51 psf, balance loading condition and 51-78 psf for unbalanced loading.
- The Code requires checking for snow blowing from one side of the roof to the opposite side.

Note: The Code required snow loads cited herein assumes this an unheated structure (Ct=1.2) but is also a low hazard structure (Importance factor = 0.8), since it is primarily unoccupied.

See the Introduction for discussion about the current New Hampshire snow load requirements versus recent historical snow loading requirements.

Structural Viability/Implications of Adding Solar Panels or Adding Insulation to the Building's Roof:

Not recommended until a structural evaluation of the roof is completed.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

None.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

- Land: $111,500.
- Site Improvements: $17,100.
- Total Assessed Value: $154,600.

End of Sub-Section B-10: Transfer Station

B-11: Enfield Center Town House

The Location

1044 NH Route 4A; Tax Map 39 / Lot 1; in the R1 Residential zoning district.

The Site

This existing site is situated on the westerly side of the highway, presently known as New Hampshire Route 4A and formerly known as the Fourth New Hampshire Turnpike. This pubic highway is owned and maintained by the State of New Hampshire. The original lot, upon which the Town House is situated, was first created by virtue of a Warranty Deed dated April 27, 1859 and recorded in the Grafton County Registry of Deeds Book 257 / Page 472. This lot measured approximately four and one-half (4½) rods (=74.5 feet) of frontage on the public road by approximately five (5) rods (=82.5 feet) deep, making for 0.14 acre of land area. In 1924 the original lot was increased in size by virtue of a deed dated October 9, 1924, and recorded on Book 592 / Page 390. This deed added a twelve (12) foot strip of land on both the northerly (side) and westerly (rear) sides of the parcel.

On May 17, 1976 a boundary survey of this lot was completed by Land and Forestry Consultants titled "*Land Situated on Route 4A in Enfield Center Surveyed for and Owned by Town of Enfield, N.H."* From that boundary survey a Quitclaim Deed was created and recorded on August 4, 1977, Book 1316 / Page 681. This survey verified the Town's ownership per the 1924 deed mentioned earlier, and confirmed the location of the adjacent property owner's gravel driveway that had mistakenly been constructed all or in part on the Town's property.

The original Warranty Deed that created the Enfield Center Town House lot in April 1859 contained the following language: *"To have and to hold the said premises, with all the privileges and appurtenances to the same belonging, to the Town of Enfield as long as they occupy & use the same for a Town House to stand on and their only proper use and benefit forever."* The subsequent October 1924 deed clearly removed this restriction and reservation. New language was placed in the 1924 deed stating: *"Restricting and reserving the said premises for any and all community purposes."*

There is some amount of speculation and conversation that at one time the Enfield Center Town House building was situated on a much larger parcel of land, owned by the Town of Enfield; and that at some time in the twentieth century, the 1960's or 1970's, most of that land was sold and is now the front portion of the adjacent Charles H. Muzzey, Jr. property, Tax Map 8 / Lot 16. There is nothing in the chain of deeds that in any way support this claim. The deed of August 4, 1977 is often cited to support that assertion but it does not. Nor is there anything within the title for the Muzzey property that suggests that lot at any time acquired land from the Town of Enfield. To the best of this writer's knowledge and deed research, the lot that the Town House is situated upon has always been approximately the size that it remains to this day.

At this time there is no domestic water, septic disposal, or vehicular parking infrastructure improvements on the site. An unnamed brook flows easterly along the southerly side of the property.

The Building

The existing building is a single story wood frame structure with a gross footprint area of approximately 2,640 square feet. The building does not appear to have any amount of fire ratings of any kind, nor is the building equipped with any manner of fire suppression system (i.e: automatic sprinkler system) or fire alarm system. Since the time of its initial construction, the entire building has been used for purposes of public assembly. The current applicable provisions of the adopted New Hampshire State Building Code and the State of New Hampshire Fire Code classify the entire building as a Place of Assembly. And although that long standing use has admittedly been sporadic and intermittent, it does not diminish the use of the building as a Place of Assembly.

This building presents the Town of Enfield with a series challenges unlike those facing the other ten (10) municipally owned facilities that are the subject of this report. Broadly speaking, these challenges break down as follows:

First, preliminary evaluation of the present building makes it abundantly clear that the existing floor has been damaged by extensive rot well beyond the point of simple repair. Instead, the entire floor system needs to be carefully removed, and a new engineered floor system constructed. Clearly this is a major undertaking.

Secondly, making a repair as significant as complete replacement of the structural floor system will, undoubtedly, cause the adopted building and fire codes to present a series of questions regarding other aspects of the building, even though the long standing Assembly use of the building would not be changing. These questions will include:

- Providing handi-capped accessibility into the building?
- Providing men's and women's toilet facilities, that are also handi-capped accessible, somewhere on the site?
- Other aspects having to do with the building's structural condition and integrity?

The third challenge concerns the overall matter of the building site. Due to the building's proximity to the adjacent brook along the lot's southerly boundary, at times the building has been subject to flooding. Large amounts of water have become trapped within the existing crawl space area below the main floor during periods of flooding. As long as the building remains at this present location, there appears to be no easy or cost effective way of preventing future flood damage. This then begs the question of whether it makes sense to replace the damaged existing floor structure if the flooding hazard is not also addressed. The most practical way to address the flooding issue would be to move the building northerly, away from the brook; however, the present lot size does not have enough area to allow for that. Nor is the lot large enough to accommodate an on-site domestic water supply, on-site waste water disposal, necessary building expansion to accommodate handicapped accessible building entrance and toilet facilities or a reasonable amount of on-site parking.

On the other hand, the Enfield Center Town House is an important building for the following reasons:

- Architecturally the building is a fine, unblemished, historic building that is very deserving of being saved, used, and protected.
- The building is a very real tangible piece of Enfield's larger past history.

- The building is an integral and important part of the village area of Enfield Center and continues to make it relevant to this day.

Preliminary Structural Evaluation

Plans Available:

Sketch plan of first floor by Barrett Architecture, PC.

General Description of the Structural Systems:

40'x60' historic timber framed building originally constructed in 1845 and moved to its current location in 1859. The building has a large open area and one interior wall that runs the 40' width of the building. A 7'x20' shed addition is constructed on the rear (west side) of the main building.

Foundations consist of 8" cast-in-place concrete walls with one course of 8" concrete masonry unit (CMU, block) at the top. The foundation walls extend 18" to 36" above ground inside and outside providing a "crawl space" under the building. Interior footings consist of a random assortment of dry-laid stone, cast-in-place concrete spread footings with timber or steel posts, and concrete blocks. All footings appear to be at or slightly below the ground surface, thus are not frost protected. The crawl-space floor appears to be native silty soil.

1st floor framing consists of a mix of sawn timbers and round log joists and beams. Several beams have been added at mid-length of joists.

The roof is a heavy-timber framed structure that utilizes king-post style trusses at varying spacing (9' to 14') and which clear-span the 40' building width. 8"x8" timber purlins span between trusses and 4"x5" rafters with approximately 36" spacing span approximately 12 feet from the eaves to the purlins and from the purlins to the peak. The truss top and bottom chords are 8"x8" timbers, an 8"x8" timber serves as the center "king post" and the diagonal webs are 4"x6" timbers. 2"x4" ceiling joists spaced at 24" to 25" on center span between the truss bottom chords and support the lath and plaster ceiling.

Overall Conditions Assessment:

The overall structural condition of this building is considered "extremely poor" and unsafe for occupancy in its current condition. See the noted structural issues as follows:

1. Extensive rot and areas of failure of the 1st floor framing.
2. Failure of 1st floor framing is likely adding to loads at the roof where the interior stage wall is now "hanging" from the ceiling.
3. Numerous heaved and settled interior foundations are no longer providing support to the first floor framing.
4. Poor drainage and apparent intermittent flooding of the crawl space.
5. Extensive mold, mildew and other fungi growing on the underside of the 1st floor framing.
6. Low floor load capacity in some areas, even if floor framing were in good condition.
7. Possible roof leak and visible timber rot and fungus at the east (front) end of the roof framing. This appears to be where a former bell tower once existed.

Approximate Floor Live Load Capacities:

Less than 30 psf, based only on an area of 4"x6" joists at 20" on center which are spanning 16' and which are assumed to be in "good" condition.

2009 International Building Code Required (IBC) Capacity for Various Uses:

"A3" Assembly (areas with moveable seats) = 100 psf.

Approximate Roof Snow Load Capacity and NH Code Required Snow Load:

- Roof Snow Load Capacity:
  - 25-30 psf for the 4"x5" rafters.
  - 20-25 psf for the 8"x8" purlins.

  Note: The capacity of the roof trusses is unknown and may be significantly less than that of the rafters and purlins.

- Code Required Roof Snow Load = 33 psf, balance loading condition and 33-73 psf for unbalanced loading. The Code requires checking for snow blowing from one side of the roof to the opposite side.

  Note: The Code required snow loads cited herein assumes this is an unheated structure (Ct=1.2) and is a 'typical occupancy' with Importance factor = 1.0.

Structural Viability/Implications of Adding Solar Panels or Insulation to the Building's Roof:

Adding solar panels and/or insulation is NOT recommended until a more comprehensive structural evaluation of the roof has been completed and the roof is made compliant with the current Building Code's requirements for roof snow loads.

Conceptual Level Recommendations for Work Required to Address the Noted Structural Concerns:

1. Prohibit occupancy/use of the building until a more comprehensive structural evaluation of the floor framing and foundations is completed and the necessary and/or recommended remedial work is completed.
2. Check the roof for leaks in the vicinity of the old bell tower and replace or reinforce the rotted roof framing.
3. Completely remove and replace the 1st floor structure.
4. Reconstruct the building foundations with frost protected interior foundations, flood proofing or no crawl space, and with adequate surface and subsurface drainage around the building perimeter.

Assessed Value of the Property

The Town of Enfield's property assessment records place the following value on the property:

• Land:	$40,200.
• Site Improvements:	$0.
• Building:	$106,600.
• Total Assessed Value:	$146,800.

End of Sub-Section B-11: Enfield Center Town House

B-12: Concluding Comments

It is the intended purpose of this second section of the report to make a thorough review of the facilities that the Town currently owns and utilizes and to evaluate their usefulness looking forward. Although the needs of the Town, alternatives, and recommendations will be discussed in greater detail in the third remaining section of this report, it is important to broadly summarize the findings of this section of the report. Based upon the above findings, the following broad conclusions can be confidently reached, in no expressed or implied order of priority:

1. The existing town administrative office space, as housed in the lower level of Whitney Hall, is totally inadequate and inefficient for not only the Town's current needs, but also for the foreseeable future. Included within this statement are the following important points:
    a. The administrative functions presently contained within Whitney Hall do not have sufficient space.
    b. It is very necessary to get the Town's planning, zoning, and building code administrative functions housed with those other municipal functions such as Town Clerk, Finance, and Town Manager.
    c. It is very necessary that public meetings for Select Board, Zoning Board of Adjustment, Planning Board, and other such town boards and commissions be held within a "municipal building environment" that is efficient, convenient, and safe. Presently having these important functions of local government housed out of the village area, at the Department of Public Works (DPW) facility, is not only very inefficient and inconvenient, but also potentially dangerous.

2. The Enfield Public Library is in need of additional space such that, for well into the future, the citizens of Enfield can benefit from an important offering of diverse library services; and such that the Enfield Public Library remains the important and relevant part of the community that it clearly has been for well more than the past century.

3. Although the (DPW) facility is one of the newer buildings that were included in this overall study, this building is presently in need of repairs and upgrades such that the Town will continue to maintain a sound investment in this very necessary and important facility.

4. It is critical that the reader understand the very serious need for the Town of Enfield to develop a new emergency services facility. This statement is in large part based upon the realization that the present Police Facility, the Union Street Fire Station, the Depot Street Station, and the building at 15 Shedd Street currently being used for Fire Department storage are all, to some degree, woefully inadequate and inefficient. Furthermore, there is no easy, cost effective, value added way to make these existing facilities useful for the long term needs of the community.

5. The Enfield Center Town House is a building in need of serious consideration and repair, assuming the community sentiment is to save the historic building.

6. Whitney Hall, perhaps the most visible and historic "face" and "signature" of the community, appears overall to be in very good condition. There is no reason to believe that this facility cannot for many decades to come serve the community well, as long as the citizens of Enfield choose to take appropriate care of it.

End of Sub-Section B-00: Concluding Comments

Section C: Alternatives and Recommendations

C-0: Introduction

This is the third and final section of the report, and will discuss the following:

A. The Town of Enfield's overall municipal needs looking forward.
B. The viability and suitability of existing town-owned municipal facilities.
C. Alternatives and recommendations for addressing Enfield's long range municipal facility needs.

As the reader considers the material presented in this concluding section of the report, the writer believes that it is critical that the following important and influencing background factors be briefly touched upon and then subsequently kept in mind by the reader. These factors include:

1. The probable population growth within the Town of Enfield in the coming decades, the probable demographics of that population growth, and the demands and expectations that will be placed upon municipal services and facilities by that changing and evolving population dynamic.
2. The probable patterns of new development and land use impacts within the Town of Enfield in the coming decades, the role that both local and state land use regulations will continue to play in the many decades to come, and how these factors will influence the future of municipal services and facilities.
3. The probable growth in Enfield's overall tax base, and the future taxing capacity of the Town of Enfield to be able to develop and maintain municipal services and related town-owned facilities.
4. The role that the State of New Hampshire's building and fire codes currently play relative to town-owned facilities, and will undoubtedly continue to play in the decades to come.

These four factors will, and should, continue to influence the choices and the decisions that will need to be made concerning Enfield's local municipal government services, and the facilities that those services will require, to be reasonably best able to efficiently and effectively respond to the expectations, needs, and aspirations of the citizens of Enfield at large for many decades to come.

Future Population Growth and Demographic Mix.

As noted at the beginning of this report, in 2016 the official population figure for Enfield was 4,536 persons. Since 2000 that figure has remained mostly constant with no real detectable increase in the amount of growth. Since 1990, twenty-six years before, there had only been about a six-hundred person increase in that population amount. This population increase from 1990 to 2016 equaled slightly less than a nine (9) percent increase. Compare this to an increase of twenty-six (26) percent between 1980 and 1990. Based upon local, New Hampshire, and New England regional population trends, this writer believes that in the foreseeable decades ahead Enfield's population growth will be modest and very gradual at best, perhaps reaching 5,000 or only slightly more within a decade or so. This assumption is not only supported by regional population trends beyond Enfield's borders, but also by housing opportunities and land use realities, be that due to the Town's physical characteristics and/or locally and state imposed regulatory land use measures.

As to the future evolution of Enfield's changing population demographic, first it can be readily assumed that the demographic changes that have been steadily taking place in Enfield since the 1970's, shifting from more of a 'blue collar' industrial and agricultural working class based population to a more highly

trained, mobile, urban, and educated 'white collar' professional class based population, will continue. This generally follows larger regional trends within the Upper Valley as a whole.

Lake Mascoma, and to a lesser degree Crystal Lake, have long played an important historical role in Enfield's social and economic evolution and development, and will undoubtedly continue to do so through at least this century and beyond. This has, and will continue, to greatly influence both the seasonal and year-round population and the demographic mix. The same broader population and demographic changes mentioned above (blue collar working class to white collar professional class) will also continue to play out concerning both Lake Mascoma and Crystal Lake. In the decades to come, the value, desirability, and demand for lake shore property will continue to grow. This in turn will continue attract a more affluent, and possibly older, property owner demographic.

in the decades to come, these continued demographic changes and trends in Enfield, and in the region as a whole, will likely manifest itself in a population base expecting more of its municipal services and facilities, and therefore more willing to support them with their tax dollars. This population demographic will continue to have an accepting and more progressive attitude towards both local and state government in general – including matters concerning land use. Simply stated, the hands of time are not going to revert back to an era of very minimal, and less effective, local municipal government and services as it was, say fifty or even twenty-five years ago.

The public's desire, acceptance, and support for municipal services, tangential to the evolutionary changes seen in Enfield's population demographic during the past fifty or so years, have been important evolutionary changes to the structure and extent of Enfield's local municipal government and the services it provides. Generally speaking, these changes, and the resulting services being provided, are broadly supported by the community's many tax payers and voters. Thus it is very unlikely that any of these advancements and gains will be reversed or eliminated. These currently well-established municipal services, in no particular order, include the following:

- Town management, finance, and administration.
- Police, fire, ambulance, and rescue (Emergency Services).
- Department of public works including trash and recycling (DPW).
- Planning, zoning, and building code enforcement and administration.
- Recreation.
- Library.

The present status of the above municipal services that the Town of Enfield provides its citizens and associated tax base, including the relative government personnel structure, allows a reasonable opportunity to understand and assume probable future staffing, equipment, and facility needs and requirements for the future. Again, very broadly speaking, the following points seem appropriate to keep in mind:

1. The amount of personnel engaged in town management, finance, and administration is in all likelihood not going to significantly change. The structure of this segment of Enfield's local municipal government appears sound and working well.
2. There will continue to be increased requirements for updated training and certification concerning police, fire, ambulance, and rescue services – i.e. Emergency Services. This will continue to come from both State and Federal government levels and will continue to be heavily influenced by the nation's insurance industry in an overall effort to minimize life and property loss.

3. The facility requirements for local Emergency Services will continue to be influenced by these same factors. It is not unreasonable to speculate that the day may come when it will be necessary for a town like Enfield to have, to some limited degree, a partially manned Fire Department that is well-trained and properly certified.
4. Recreation and library services will continue to be important and integral to Enfield's social and economic welfare and sense of community and overall wellbeing.

In conclusion of this point, it appears highly unlikely that the Town of Enfield will choose to slide backwards to an earlier time with regard to the level of municipal services it provides. This is due to the expectations of its citizenry and demands that will continue to come, wanted or not, from beyond the Town's borders.

Future Development Patterns and Land Use.

Although Enfield was among the later towns within the Upper Valley Region to adopt current-day local land use regulatory measures, a generation has since passed, and planning and zoning land use functions are now an integral part of local municipal government. They are generally well-supported by a majority of the town's citizenry. These regulatory measures recognize and protect the town's natural resources such as steep slopes, water bodies, and wetland areas. They also attempt to work with, support, and encourage existing well-established growth patterns where most appropriate. This is not to say that there will not continue to be further growth and development within the more rural areas of Enfield; however, given changing social preferences and attitudes towards housing choices, and the increasing costs of land and building development, the existing patterns and pace of rural growth in Enfield are not likely to change significantly, or accelerate. Given the broader regional trends now well-established within the core area of the Upper Valley towns of Lebanon, Hanover, and Hartford, and the continued evolutionary impact upon traditional commercial goods and services by the worldwide internet, there is not likely to be a noticeable increase in commercial development in Enfield. Although US Route 4 will continue to be the main commuter artery passing through Enfield, and Interstate 89 will continue to play its intended major regional transportation role, these two transportation factors will not be the cause of large scale commercial growth within the town. However, with that said, it is entirely reasonable to believe that there may well be some amount of smaller scale, local, commercial growth, especially along the US Route 4 corridor, supported by the more immediate population base.

During the decade of the 1990's the New Hampshire Shoreland Water Quality Protection Act became law throughout the State, which greatly applied in Enfield due to the presence of Lake Mascoma, Crystal Lake, and the Mascoma River. Additional State regulations concerning wetlands and terrain alteration have also had a significant impact upon development and land use within the Town. Now, several decades later, these various State regulatory measures have become an accepted and integral part of local land use and development in Enfield. This is not at all likely to change in any way that would lessen their impacts or presence. It is a fair statement to say that, given Enfield's abundant natural resources and features, the Town's land use is more heavily influenced by these regulations than in other communities within New Hampshire.

What this brief discussion clearly indicates is that given both local Town and State land use regulations, it is reasonably clear that the well-established development and land use patterns within the Town of Enfield will not significantly change; and that, in no particular order, the following assumptions can be made concerning town services and facilities:

1. The two (2) village areas of downtown Enfield and Enfield Center will continue to be clearly defined population centers.

2. Desirability, and hence property values, will remain strong with some amount of growth around Lake Mascoma and Crystal Lake; and they will continue to be areas of residential population density.
3. Areas of Enfield currently zoned *R1 Residential* will continue to see modest growth, as has been occurring in past decades.

These three points indicate that population densities will probably not significantly shift within the geographic town as a whole; and therefore looking broadly at the physical location of municipal services, the following conclusions can be made:

a. Downtown Enfield village will remain the center of administrative municipal government services, including recreation and library.
b. The Department of Public Works (DPW), including trash and recycling, is a well-functioning and well-facilitated department that is likewise, all things considered, reasonably well-sited to continue serve to needs of the Town for decades to come.
c. As to the development of the Town's Emergency Services, undoubtedly the weakest area of current municipal facilities, it will be important that this function remain near the area of greatest population density within the Town, on the northerly side of Lake Mascoma, and convenient to the US Route 4 corridor. With that said, keeping the fire station located in Enfield Center, as it is presently organized as a sub-station, into the foreseeable future appears well-advised.

The probable growth in Enfield's overall tax base and taxing capacity of the Town.

Based upon the above discussions, for municipal public policy makers, it appears reasonable to assume that any increased buildable, and therefore taxable growth in Enfield in the coming decades, will be modest at best. It may, at the most, be only able to keep pace with increased pressures upon necessary municipal budgeting and expenditures caused by inflation. It is more likely that any increase in property taxing capacity will come from the increasing land values of existing properties due to modest supply and increasing demand.

With this probable reality in mind, it will be important for local policy makers, as they look to develop municipal facilities, to keep in mind several broad points:

1. As every astute home owner understands, maintenance on all buildings is potentially expensive, especially concerning existing older buildings. When it comes to existing municipally owned buildings and facilities, it is all too common that adequate budget amounts be not appropriated on a timely basis, and hence necessary maintenance and repair work is often deferred or not undertaken.
2. When considering new municipal buildings and facilities, the decision is often made to purchase the most cost effective building possible, and not look to the longer-term. In addition to initial cost, building longevity and expandability are important factors that municipal policy and decision makers should not overlook, but rather consider carefully. After all, it is the tax payer's dollars, present and future, short and long term, which is being spent.
3. It is clear that the Town of Enfield has some pressing municipal needs, and an abundance of older properties (facilities) that are in need of maintenance repairs, upgrades, and/or replacement. Given some of the above comments, this is going to require much careful planning, carefully made choices, and comprehensive detailed budgeting. All real estate, land

and buildings, is expensive to initially develop and to then subsequently own and maintain for the long term.

The role that the State of New Hampshire's current building and fire codes currently play relative to town-owned facilities.

Before addressing alternatives and recommendations concerning town-owned buildings, be they presently owned or facilities that the Town might choose to develop in the future, it is important that the reader have at least a broad understanding as to the increasingly greater role that State building and fire codes play in these matters.

The era of modern-day building codes has been, to at least some degree, a part of our national culture since about 1910; a time of several notoriously large and destructive fires with loss of life. For much of the Twentieth Century, building codes were primarily thought of as "fire codes", dealing with important aspects of fire safety in buildings used by the public. Things like proper egress from the building in case of fire and fire ratings throughout the building were the primary areas of focus as these codes evolved. These codes were more frequently applied in more urban areas of the country, and were not really a factor in small town America, including in New Hampshire, with the exception of schools, hotels, auditoriums, and the like. Furthermore, these codes were primarily drafted by persons and organizations associated with the fire safety services.

By the final three decades of the last century, more sophisticated building codes came to be the law across New Hampshire; however, they still dealt primarily with matters of fire safety and their enforcement was spotty at best. In the State's larger communities, there was usually a suitable level of enforcement; however, out in the rural areas of the State, not so much. Regardless, by the mid-1990's this all started to change, both nationally and more locally in New Hampshire. In part due to the costly expenses of dealing with the aftermath of devastating natural disasters in areas of the country prone to more severe weather and earthquakes, the insurance industry began playing a far greater role in drafting newer versions of the various building codes used regionally in the country, and advocating for a more widespread, comprehensive nationally-based building code. The outcome, about fifteen or so years ago, was the development and adoption of building codes that dictated, in detail, almost all aspects of a building's design and subsequent construction, with a view to minimizing not only the potential for the loss of life in an emergency event, but the potential for physical damage to the overall building structure. The primary objective became managing and minimizing loss in general. As an example, designing buildings to withstand damage from wind and earthquake (lateral forces) in all areas of the country, and not just in those areas prone to such events, became an important and integral part of newer building codes adopted by the nation's fifty states - including New Hampshire.

As to existing buildings, the codes looked to first distinguish between their maintenance and repair, and making major alterations and/or additions. If significant alterations and/or additions were to be made to an existing building, then the building code required certain fundamental aspects of the existing building be brought up to the same standards as would be required for new building construction. Needless to say, this was a massive change in overall policy. This overarching requirement has extended to matters beyond just structural considerations and now includes: energy conservation, mechanical - electrical - plumbing (MEP) systems, handi-capped accessibility, and a host of other more nuanced building details and potential issues.

Presently, in the State of New Hampshire, there exist the New Hampshire Building Code (RSA Chapter 155), and the State Fire Code (RSA Chapter 153). These two codes are the "law of the land", so to say,

applicable in all parts of the State unless it is property owned by the Federal Government. These codes apply to all buildings and uses, other than one and two-family residences which must comply with a separate State building code. Fundamentally, these two State codes consist of, by reference and statutory adoption, major national codes like the International Building Code (IBC) and its full "family" of related sub-codes (plumbing, energy, and so forth), and the numerous codes written and published by the National Fire Protection Association (NFPA).

For the Town of Enfield, and the varied purposes of this study and subsequent report, the above discussion has several very important and direct ramifications. First, in addition to the usual building code requirements applicable to any building used by the public, is the additional code requirement that certain municipal or "governmental" buildings be assigned a so-called "Importance Factor", or what the International Building Code (IBC) calls an "Occupancy Category". Simply stated, the code expects that certain buildings used by the public in times of emergency, for purposes of government function like police and fire stations, water pumping facilities that maintain water pressure for fire suppression, or facilities sheltering displaced persons, be able to even better withstand the effects of natural or manmade disasters.

As an actual and tangible example of this code requirement, were the Town of Enfield to propose an addition to the Union Street Fire Station to better house the Town's firefighting, ambulance, and rescue equipment, and provide better administrative and training facilities as well, not only would it be required that both the existing building and any additions and alterations meet an array of present-day code requirements, but it would be required to meet heightened structural requirements because of the "importance" of this necessary facility in a time of an emergency or natural disaster. As discussed in Section B, with a building that was designed and constructed as a creamery in 1940, it would be extremely difficult, impractical, and cost prohibitive to meet present day code requirements, if not impossible, without tearing the building down.

Therefore, like it or not, the authors of the material contained within the pages of this report must keep factors such as this clearly in mind when making evaluations and recommendations to the Town as to possible alternatives and potential paths forward. The very heavy hand of building codes has become a very real fact of life for architects and engineers. It was hardly the case when this writer's father, also an architect, was practicing architecture and engineering from 1937 until he retired in 1985.

End of Sub-Section C-0: Introduction

C-1: Overall Assessment of Facility Needs

Equipped with the many observations and findings of this Municipal Facilities Optimization Study, and subsequent report, , it is important that the Town of Enfield recognizes the need for, and looks to develop, or re-develop, the following municipal facilities, listed in order of priority:

1. A new **Emergency Services** facility that combines the following existing functions within one (1) efficient building, as follows:

    1. Police Department.
    2. Fire Department.
    3. Ambulance and Fast Squad.
    4. Rescue.

    It is important that the existing Enfield Center Fire Station be kept on-line and equipped as it presently exists. All other emergency services vehicles and related equipment should be housed at one new facility that is designed for efficient operation and can readily take advantage of those functions typically shared between those four services, including:

    1. Administrative and dispatch functions.
    2. Training and meeting room functions.
    3. Supplies and storage functions.
    4. Maintenance functions.
    5. Toilet, shower, and locker room functions.

    Furthermore, it is important that such a new facility be planned to easily accommodate future expansion and the possible need for a 24/7 manned facility should the future need require it. If at all possible, this new facility should attempt to be of "Net Zero" design for purposes of minimal environmental impact as well as overall maintenance and operational energy efficiency.

2. A new **Municipal Building** of modest and efficient size that is able to combine the following municipal functions:

    1. Town management, finance, and administrative functions.
    2. Town clerk, property assessment and taxing functions.
    3. Convenient public meeting room space for approximately 70 persons.
    4. Record storage functions.
    5. Planning, zoning, and building code functions.
    6. Possible recreational department administrative functions.

    Furthermore, similar to the new emergency services facility, it is important that such a new facility be planned to easily accommodate future expansion should the future need arise. If at all possible, this new facility should attempt to be of "Net Zero" design for purposes of minimal environmental impact as well as overall maintenance and operational energy efficiency.

    Lastly, it is understood that the daily oversight of municipal water and sewer services would remain with, and be located at, the Department of Public Works on Lockhaven Road. Billing and payment of same would be made at the municipal building – not at the DPW.

3. It is abundantly clear that for a considerable period of time the **Enfield Public Library** has been in need of additional space and improved facilities. Some number of years ago full architectural

plans were prepared for the construction of a new free-standing library facility; however, that effort remains stalled and the Library continues to occupy Whitney Hall – its home since the building was constructed in 1901. The improvements made to Whitney Hall over the years – an elevator and a fire rated stair – have been good for the overall building, and have benefited the library as well. For reasons that will be discussed later in this report, it is recommended that Whitney Hall become entirely the location of the Enfield Public Library upon the building being vacated by the municipal offices presently located within the lower level. As the reader will see, the feasibility of both the town offices and the library remaining on the Whitney Hall site has also been examined.

End of Sub-Section C-1: Overall Assessment of Facility Needs

C-2: Recommendations – Existing Facilities

Whitney Hall

As discussed in Section B of this report, Whitney Hall presently serves the Town of Enfield as:

- The location of some amount of the town's administrative offices.
- The location of the Enfield Public Library.
- The location of a non-municipal, private, non-profit theater arts group.

In part, because the building was designed in 1900 to house these functions, the building can be thought of as suited to continue to do so into the foreseeable future. However, simply stated, the biggest single issue with this existing building is that there is presently not enough space for both the town offices and for the library to properly function and provide an efficient and full range of services to the public – now and into the future.

With regard to the matter of town administration and municipal services to the public, it first should be noted that at this time, all planning, zoning, and building code administration services are located off site, several miles away, at the Enfield Department of Public Works facility located at 74 Lockehaven Road. As has been previously pointed out, this is not only very inconvenient for the public, but potentially more accident prone for the user public as well. Furthermore, because there is not adequate public or staff meeting space within Whitney Hall, Select Board and other public meetings are held at the DPW facility. As previously stated, this is both inefficient and inconvenient for town staff and the public alike, and presents an added level of safety and risk concerns. Not being able to have public meetings in a readily available and open "Town Hall" or municipal building sends the wrong message and sets an unfavorable tone to would be participants and citizens with an interest in local government. With the exception of DPW administration, including water and sewer, and emergency services, all other administrative functions, possibly including recreation, should be housed together under one roof within a proper functioning and efficient "town hall" municipal facility.

The Enfield Public Library, an important cultural and civic function, has been an active part of the Enfield community since 1856, and has out grown the space it presently occupies in Whitney Hall. Since the time that the building was first occupied in April 1901, the library has been one of the primary users of this important town-owned facility. It is evident that the Library Trustees and library staff wish to keep the library relevant and current with the public's needs and expectations for many decades to come. The most pressing issue is the lack of suitable space for existing needs and expected growth, and to accommodate future changes in public library services be they foreseen at this time or not.

As noted in Section B of this report, both this writer and the consulting structural engineer, Mr. Schaal, determined the building to be in generally sound overall condition. Furthermore, this writer considers the building to be a very good period example of the Queen Anne style of architecture that was popular at the time. Historically and architecturally, the building is in well-preserved condition and worthy of being preserved and used as the important public building that it is. The building is well-located on Main Street, presents itself well within the village area, is within walkable distance for many residents and users including the elementary school, and has ample on-site parking. The building is also well-served by municipal water and sewer service. The fact that the building is presently equipped with a modern elevator, and has fire resistant vault storage space, as well as a modern fire rated exit stair is an assist for continued Library and/or Town administrative space.

Given the above information, and because the building is presently being utilized for existing "business" and "assembly" uses, as per the State building and fire codes, as it has since the time that it was constructed in 1901, with minimal code impacts, future use of the building could continue to include:

- The Town of Enfield's **Municipal Building**, less police, fire, and DPW. This would require some amount of both alterations and renovations within the existing building interior, as well as a multi-story addition on the rear of the present building to more fully accommodate administrative functions, including public meeting space for the Town's boards and commissions. With this scenario the theater company could continue to use the uppermost floor of the building without being displaced; however, the Library would need to develop new quarters – either attached or detached from Whitney Hall.

- The home of the **Enfield Public Library**. Like the above scenario for the Town's administrative offices, this would require some amount of both alterations and renovations within the existing building interior, as well as a modest two-story addition on the rear of the present building to more fully meet the Library's ongoing and evolutionary needs. As with the above Town Offices scenario, the theater company could continue to use the uppermost floor of the building without being displaced; however, the Town Offices would need to find new quarters – either attached or detached from Whitney Hall.

Both of these scenarios are worthwhile to consider because of the important factor of not changing the use of the building as per the terms of the various applicable State building and fire codes. This has serious advantages as far as the often times "unintentional consequences" of the impact that building codes often render on older buildings. For the last almost one-hundred twenty years, the Town has made a continued investment in the property, and would therefore continue to take advantage of that investment. Furthermore, both of these alternatives preserve the historic integrity and long-held sense of purpose of this long-serving and important community facility. There is every reason to believe that with proper architectural consideration, the building would continue remain historically and architecturally intact, very usable, and relevant.

Other possible alternatives for the building could include the Town abandoning the facility completely, selling the property, and constructing entirely new town administrative offices and library facilities elsewhere, such as adjacent to the Enfield Community Building located at Huse Park and 308 US Route 4. This scenario then begs the question of the ultimate fate of Whitney Hall. One could envision the building being converted to multi-family housing, an arts center, office and/or other commercial uses. However, this would undoubtedly require substantial alteration of the building with potentially a negative impact on the building's historic and architectural character. Of course, prior to selling the property, the Town could place preservation and other types of easements on the property. While this might well insure certain aspects of preservation of the existing building, it would conversely run the risk of making the building less appealing to a potential buyer, or otherwise driving downward the value of the property. For the record, at this time, the Town's Net Total Appraised Parcel Value for the property, land and building, is $457,700 ($104,400 land and $353,300 building). Whether this amount of value could be gained by sale of the property or not, this writer in not qualified to say.

Another alternative possibly similar to the above would be for the Town to retain ownership of the property, and with the existing theater company remaining as a tenant on the upper floor, develop an arts facility using the theater as a nucleus. Or, as a variation upon that theme, sell the property with preservation easements placed upon it to a non-profit group as an arts facility. Either way it begs the

question whether this would be a long term, stable, viable, and successful use of the property, especially when considering the Upper Valley region as a whole. Were the Town to vacate the property but still retain ownership of it, can it reasonably afford to properly maintain the property into the future, especially when one considers other very serious needs and priorities presently facing the Town?

After considerable thought and evaluation, and taking into consideration the Town of Enfield's many long-range pressing needs, options, and opportunities, this report concludes that there are two (2) viable options for the Town's continued use of Whitney Hall, and not abandoning the property. They are:

1. **Option 1:** Continued use only as the location of the Enfield Public Library with a modest expansion of the existing building; and the Town of Enfield municipal offices are re-located off-site to a new location.
2. **Option 2:** Continued use as a combined location of both the Enfield Public Library and the Town of Enfield municipal offices with a large addition to the existing building that realistically requires razing the entire existing Police Station facility.

Option 1: The Enfield Public Library as a Single Occupant of the Building.

This option envisions the following points:

- The Town's administrative offices would be entirely vacated from the building, and relocated to a new municipal offices facility to be discussed elsewhere within the third section of this report.
- The Enfield Public Library would occupy the entire building, less the present upper floor theater area, and the full site as follows:
    - The library will continue to occupy the existing main floor of the building as it presently does.
    - The library will occupy the existing lower level of the building for storage and work room areas, as well as necessary electrical and mechanical functions.
- Maintain and improve as necessary the existing upper level theater area as it is presently used by non-profit theater groups and the like.
- Construct a new two-story addition on the back (easterly) side of Whitney Hall to provide additional space for the library. Past studies of the Enfield Public Library have concluded, as per the Library's Strategic Plan 2019 – 2023, that to function properly the Library needs a minimum of 7,500 gross square feet, and possibly as much as 9,786 square feet. The existing area of Whitney Hall is approximately 3,600 gross square feet per floor. Were the Library to occupy two (2) floors in Whitney Hall, that would equal 7,200 gross square feet of existing floor area. Assuming a new two-story addition of 1,500 square feet per floor were to be made at the rear of the existing building, that would equal 3,000 new square feet, providing a total of 10,200 gross square feet of total library floor area, not including the upper floor theater space.

The benefits of this proposal are many, and appear to outweigh potential down side consequences. They include the following points:

- This keeps the Enfield Public Library within the village area, at its present, long serving, walkable location, and near to the local elementary school.
- This secures the future of Whitney Hall for generations to come, and assures that the building will continue to be a strongly valued community resource – both historically and architecturally.

- This allows the opportunity for Enfield to continue to develop a role within the greater Upper Valley Region as a valued contributor in the performing arts community; and other arts venues could be included on-site depending upon the design of new additions to, and the re-programing of the existing building. In America there has been and remains a long-standing association between both the performing and visual arts, and public library services.
- The site has good parking and access that is already developed.
- By keeping the present long standing library and performing arts uses within this existing building, and even expanding and improving those two uses, the building is potentially less impacted by the requirements of present and future building codes, than, for example, if the library were to vacate the building, and Whitney Hall was to become entirely a municipal office facility.
- In light of the above, this is a more cost effective and economical alternative to provide the Enfield Public Library with the facility that they are in need of, as well as planning for the library's future needs.

The potentially negative points of this proposal include:

- The Enfield Public Library does not get an entirely new facility, such as it has for many years now been planning and fund raising for.
- An amount of time, money, and effort that has already been spent to plan and design a new stand-alone library facility would be for naught.
- Library donors have already made pledges in support of a new stand-alone library facility, and this altered proposal might place some of those pledges into question and/or increase the efforts of Library fundraisers.
- This scheme cannot help but mean that the Enfield Public Library would be a two-story facility, the same as the new standalone library facility that was planned more than ten (10) years ago. A two-story library facility is undoubtedly going to be a less efficient operation to properly staff.

Option 2: The Enfield Public Library and the Town Offices both as Occupants of the Building.

This option envisions the following points:

- The Enfield Public Library would continue to occupy the entire existing building, less the present upper floor theater area.
- Maintain and improve as necessary the existing upper level theater area as it is presently used by non-profit theater groups and the like.
- Remove from the site the entire existing Police Station building and construct a new two-story addition perpendicular to the northerly side of Whitney Hall that would appear as two stories from the street and as three stories from the rear parking area. As the attached schematic site plan prepared by this office titled *Town of Enfield Combined Municipal Offices and Library; 19 – 23 Main Street; Enfield, New Hampshire*, dated April 15, 2019 illustrates, this new addition could readily provide as much as 5,640 gross square feet per floor for both expanded library area and new town office space.
- As part of this scheme, a new access driveway down to the existing lower parking level of the site would need to be developed along the northerly boundary of the site adjacent to the so-called Fairpoint Lot, and that lower level parking area reconfigured to accommodate thirty (30) parking spaces. Also, a new upper level parking area would be created that could accommodate thirteen (13) parking spaces.

The benefits of this proposal include the following points:

- This keeps the Enfield Public Library and the Town Offices within the village area, at its present, long-serving, walkable location, and near to the local elementary school.
- This secures the future of Whitney Hall for generations to come, and assures that the building will continue to be a strongly valued community resource – both historically and architecturally.
- This allows the opportunity for Enfield to continue to develop a role within the greater Upper Valley Region as a valued contributor in the performing arts community; and other arts venues could be included on-site depending upon the design of new additions to, and the re-programing of the existing building. In America there has been and remains a long standing association between both the performing and visual arts, and public library services.
- The site has good parking and access that is already developed.
- This scheme can easily accommodate all of the town office functions including the Enfield Recreation Department, less emergency services and DPW; under one roof.
- By having the new addition extend off the rear of Whitney Hall, as is shown by the schematic site plan, and not placing an addition at the northerly side of Whitney Hall, the architectural character and overall presentation of Whitney Hall is well-preserved. There is no reason to not believe that the addition could be designed in a manner that would be architecturally in keeping with the existing building, and even enhance it.

The potentially negative points of this proposal include:

- The Enfield Public Library does not get an entirely new facility, such as it has for many years now been planning and fund raising for.
- An amount of time, money, and effort that has already been spent to plan and design a new stand-alone library facility would be for naught.
- Library donors have already made pledges in support of a new stand-alone library facility, and this altered proposal might place some of those pledges into question and/or increase the efforts of Library fundraisers.
- This scheme cannot help but mean that the Enfield Public Library would be a two-story facility, the same as the new standalone library facility that was planned more than ten (10) years ago. A two-story library facility is undoubtedly going to be a less efficient operation to properly staff.
- This scheme requires the removal and probable wasting of the existing Police Facility building that is still a very usable structure; and requires some increased amount of site development work and associated costs as will be explored further in this report.

What these two options clearly illustrate is that while Whitney Hall remains a sound and historic public asset, it can no longer serve two uses – being a facility to house both municipal offices and the public library – without some difficult choices being made. However, with that said, there are, as discussed above, several very viable options for the property.

Police Facility

Regardless of how one might view the existing Police Facility building, including the aesthetics of its architectural exterior design and interior layout, fundamentally the building is still a good serviceable structure that is only about thirty years old. Given its limited age, overall stoutness of design and construction, and the fact that from a building code point of view, the building was designed for a

"Business" use, it remains well-suited for such. Municipal offices and police stations are both classified as a business or office type of use.

The building's initial deficiency is the fact that it no longer functions at all well as the type of Police Facility that Enfield needs looking forward. The existing facility, although a building in generally very good condition, is no longer programmatically serviceable as a present day Police Department. In short, it is crowded and lacks sufficient space, it is inefficient in its layout and operation, and it lacks proper levels of important and necessary security.

Other issues relative to the building's continued use as a Police Facility include:

1. The building is situated on a narrow lot that sharply slopes downward to the rear of the property. These two factors mean that it is not a site at all suitable for an Emergency Services facility where police, fire, ambulance, and rescue can be all combined in one efficient facility.
2. Given the narrowness of the lot, together with the overall configuration of the existing structure, the building does not easily lend itself to cost or space efficient expansion. On the northerly side of the building, towards the so-called Fairpoint lot, the building cannot be expanded without a variance from the adopted zoning ordinance because of the 20-foot side setback requirement. Therefore, any meaningful expansion of the building is mostly limited to extending the rear of the facility in either a one or two story configuration. Depending upon the use one might make then make of the building, this is potentially problematic and inefficient, especially for continued long term use as a Police Facility.

Putting future tax dollars into this existing building to attempt to rectify its present deficiencies as a Police Department such that it can continue to serve the community with that purpose, and considering the site limitations touched upon above, is at the very best only a short term fix with mediocre results accruing. The idea of renovating the existing building and adding an addition on the easterly back side would, while potentially possible with some amount of difficulty, at best would only be a short term fix. What is clearly a much larger issue facing the Town, that this report believes must be addressed, is the need for: A new combined Emergency Services facility.

This discussion and recommendation is to not invest any further funds or efforts toward continuing to have this facility function as the Town's Police Station. Instead the idea is to locate the Police Department out of this building and into a new facility at a new location. However, doing so then begs the question: What does the Town do with this existing Police Facility building? This study has looked at several alternative uses for the building and/or the site, as follows:

1. **Relocate the Town's municipal offices out of the lower level of Whitney Hall and into this existing former Police Station facility building.**

   On the surface, this scenario appears to have some merit. The Town already owns the developed lot and what is still a very serviceable building for some uses. Because the applicable building codes consider a Police Department and Municipal Office as one and the same "Business" use, it would seem that a potential host of possible building code issues could be avoided by this minimal repurposing of the existing building. However, all of the same issues inherent with making this facility function as an improved Police Station are inherent with making this building into municipal offices for the long term. Assuming the same broad municipal facility requirements as listed at the beginning of this section of the report (see *Overall Assessment of Facility Needs*), and translating those program requirements into tangible gross square foot building areas with cost factors applied, it is our considered opinion that this

option could cost the Town in excess of $1.0 million. We do not recommend this alternative, in part believing that the end result would be a compromised solution given other alternatives that are possible for both this existing building and addressing the space and facility needs for a new, more workable municipal facility.

2. **Remove the existing Police Station facility from the site and construct a new multi-story addition to Whitney Hall and keep both the Municipal Offices and the Enfield Public Library at this location.**

   This option has already been explored above as Option 2 concerning Whitney Hall.

3. **Keep the existing Police Station building and repurpose it for other uses.**

   Were the Town to wish to continue to own the existing Police Station building, there are two (2) directions that it could go, as follows:

   a. One option is that another municipal use, other than town offices as discussed above, be made of the building. The only use that comes to mind, that could logically be separated from other municipal functions, would be as a facility for the Town's Recreation Department. This could be accomplished with only minimal alterations to the overall building, and at a relatively minimal cost.
   b. A second option would be for the Town to lease the building to a medical or child care provider, as an example, or to some other business tenant.

   Either of these options is very viable; however, it should be kept in mind that were the Town to retain ownership of the building, there is some amount of maintenance work that needs to be undertaken as discussed in Section B of this report.

4. **Sell the property.**

   Were the Town of Enfield to vacate the property by locating the Police Department to a new emergency services facility, and were the Town to develop new municipal offices elsewhere as this report is ultimately recommending, and it was deemed not necessary for the Town to continue to own the property which at this time remains a separate lot from Whitney Hall, then selling the property is an option. It is noted that the current Net Total Appraised Parcel Value of the property, as per the Town's assessment records is $352,500. – land and buildings. This property is located within the CB Community Business District. In addition to traditional residential uses, within this district retail business, office, educational, and religious uses are allowed by the adopted town zoning ordinance. The fact that the present building was designed for a "business" use (civic administration/police station), changing the use of the building to one of these other allowed uses does not open up a potentially expensive array of building and fire code issues for a new user. This is a very important consideration for any new owner of this property.

   The downside to the idea of selling the property is that the entire driveway leading down to the lower rear parking area is located on this lot, not on the adjacent Whitney Hall lot. A significant amount of parking for both properties is located on the Police Station lot as well.

In conclusion, within the broader context of the recommendations being made by this report, were the Police Department to be relocated out of this building to a new Emergency Services facility, the best option would be for the Town of Enfield to keep this property – land and building- and repurpose the

building to house the Enfield Recreation Department. Among the advantages of this alternative are the following points:

- It keeps the property, the parking, and the connection across the adjacent rear portions of the Fairpoint and Mascoma Bank properties intact. Were the Town able to acquire ownership in fee of the rear portions of those two adjacent properties in the future, this would provide the Town with a solid pedestrian and vehicular connection between Whitney Hall and Huse Park.
- It is an economical repurposing of the existing Police Station property.
- By relocating the Recreation Department into the former Police Station building, it in turn takes space pressure off of any municipal building facility to also provide space for the Recreation Department. The Recreation Department does not need to be located within the same building as the Town Offices; and in fact one can make the argument that in an ideal world, the two are better off not necessarily cohabitating within the same space.
- This property is with ample parking, and is located adjacent to Huse Park, and near to the elementary school and the library.
- It fits well within the Enfield Recreation Department's Strategic Plan 2019 – 2023; and allows for excellent future expansion in the decades to come should such a need occur, of both building and site.

Public Works Facility

It is important that the Enfield Public Works facility was included within this study, even though the building is the newest of the eleven facilities studied, and is generally speaking presently functioning very well and as intended. Although the facility is well-positioned to serve the Town for many years to come, there are certain important long-term recommendations that should be kept in mind as Enfield plans ahead.

Presently, the Town's land use planning, zoning, and building code administration services are housed in this facility because of there is no available space in Whitney Hall where the Town's other related municipal offices are located. Furthermore, due to lack of adequate space in Whitney Hall, or elsewhere in town, all public planning, zoning, and select board meetings are held at this facility, often during evening hours. This is problematic for several reasons.

First, while reasonably well-located for a public works facility, the premises are not conveniently located for planning, zoning, and building code administrative functions. These municipal functions typically require greater contact and interaction with the general public, and as a result should be located within the same facility as the Town's other administrative functions. Not only is this inconvenient for the user public, but also problematic, inconvenient, and inefficient for interdepartmental municipal government functioning, oversight, and general management. Relocating these functions out of the Public Works facility, allows greater flexibility for future use of the building for those functions most clearly associated with public works -roads, water, and sewer.

Second, having the primary public meeting room used by the Select Board, Planning and Zoning boards, and other town boards and commissions for routine meetings and hearings is not only inconvenient for the public, but inefficient for municipal staff. At times of inclement weather, having evening meetings taking place at a location frequented with road maintenance equipment coming and going presents a potential public safety issue.

The other important consideration to keep in mind with this facility is the need to undertake an important combined building maintenance and improvement project on this existing building as soon as

possible. As noted in Section B of this report, the lower portion of the rear exterior wall of the building, along its entire 292-foot length, is of concrete masonry unit (CMU) construction, more commonly referred to as "concrete block". The purpose of this was to form a durable surface, termed an "abuse wall". Because of concentrated amounts of drainage flowing off of the high roof surface above, this lower masonry wall area is becoming very damaged. As noted in the earlier section of this report, the building has a mono-sloped roof that pitches to the rear, and because the pre-engineered building was not specified or constructed with a roof eave extension, all of the roof run-of drains down the rear face of the building, and is unintentionally being partially absorbed by the lower masonry abuse wall. Because of subsequent freeze – thaw cycles, the masonry has deteriorated to the point where it now must be replaced so as to protect the Town's investment in the building and the building's longevity.

This report recommends that the Town of Enfield hire an architectural and engineering team to work with the original manufacturer of the pre-engineered steel building to determine how best to install a new roof overhang continuous along the entire 292-foot length of the roof eave. This overhang should extend out two (2) feet from the rear face of the building. The intent of this roof work is to kick the water running off of the roof way from the building so that it no longer damages the masonry abuse wall below. Furthermore, at areas where there appears to be the most significant amount of damage to the CMU facing, it should be determined if rot damage has occurred internally within the wall. This will require some amount of exploratory work and opening up the wall for examination. Based upon those findings, a plan for replacing the masonry should be prepared such that the cost of the proposed work can be determined and the necessary work properly accomplished. At the same time, given the amount of run-off from the roof during storm events, drainage away from the rear area of the building should be looked at, and if necessary, re-grading work undertaken.

Union Street Fire Station

Since the time that the Enfield Fire Department acquired this property in 1961, and converted the former H. P. Hood creamery facility into a fire station, they are to be commended for not only the initial conversion of the property into a suitable facility for the department's use, but for undertaking subsequent improvements to the property in a frugal and cost effective manner. But fifty-eight years later, the property has come to the end of its useful life as a fire station. The property's deficiencies and short comings concerning its continued use as a fire station for the Town of Enfield have been previously discussed within Section B of this report; and therefore will not be reiterated here.

And as touched upon in sub-section C-1 above, *Overall Assessment of Facility Needs,* and will be discussed further below, the Town of Enfield needs to invest in a new Emergency Services Facility located elsewhere within the Town and then look to selling this property. The current assessment by the Town has the property, land and building, valued at $270,100. Given the current overall condition of the building, its present configuration, and ability to house other functions such as a location for a property maintenance company, as an example, we believe that this value appears reasonable and could help to off-set the cost of developing a new Emergency Services Facility.

Enfield Center Fire Station

As noted in Section B of this report, overall there is little wrong with the Enfield Center Fire Station facility. For the time being, this facility continues to serve what this report believes to be an important function: Keeping the presence of some amount of firefighting equipment readily available within the Enfield Center area of the Town.

As noted in Section B of this report, other than routine maintenance to keep the property in good repair, certain areas of the existing foundation walls, constructed of concrete masonry units (CMU), often referred to as “concrete block”, need to be replaced. Therefore, this report recommends that an architect and engineering team prepare a plan such that the Town of Enfield can secure proper proposals from qualified contractors for undertaking this work. Otherwise, assuming that the Town does not change the use of this property, and only continues to use the building to store and maintain firefighting equipment, and as an occasional meeting place for firefighters, it should continue to provide the Town with good service and utility.

Enfield Community Building

Other than the comments concerning this facility that are contained within Section B of this report, there is nothing further that we believe is necessary to add at this time.

Pavilion Building

The limitations concerning this building have been discussed within Section B of this report; and there is little to add to that with the exception that the building is in need of some amount of maintenance. That work is outlined in Section B of this report as well.

Depot Street Station

The current condition and deficiencies concerning this property have been discussed in Section B of this report; and therefore, will not be reiterated here. It is the strong recommendation of this report that the Town acknowledges that this property has little or no future as a town-owned facility. It offers only minimal utility and could present considerable expense over the long term. Looking at this property as it is presently being utilized only further strengthens the recommendation that the Town of Enfield needs to invest in a new Emergency Services Facility at a new site elsewhere within the Town. Were the Town of Enfield to decide to keep the building and repurpose it for a new use, it should be clearly understood that this idea could have expensive consequences given the numerous deficiencies that the building is presently exhibiting.

With that said, the discussion then shifts to the idea that the Town sells the property once it is no longer needed to house the ambulance and Fast Squad. This could occur in several different ways, keeping in mind that the Town does not own any of the land that the building is situated on. All of it is owned by the State of New Hampshire as part of the Northern Rail Trail.

The Town of Enfield could attempt to acquire from the State of New Hampshire the lot of land that the building is located on; a land parcel that measures about 315-feet long by about 46-feet wide. It is shown on the Town’s Tax Maps as Map 34 / Lot 48. Were the land to be sold with the building, this would obviously make for a more salable property to a wider potential range of buyers.

A second alternative would be to inquire of the State of New Hampshire if it had any interest in acquiring it as part of the rail trail. And of course there is the third option of just placing the property on the open market on an “as is” basis, and being done with it. Because the building has some historical importance and interest as having been originally constructed by the Boston & Maine Railroad circa 1900 as a passenger station, and given that much of the original building is still architecturally intact, Town might want to place preservation easements on it before attempting to sell it.

At this time, the Town has the building assessed for $9,600.; and the land, owned by the State of New Hampshire, for $68,000. According to the deed that conveyed the building to the Town in May 1995, the Town of Enfield paid $25,000 for it.

Shedd Street Garages

As with the Depot Street property discussed above, the current condition and deficiencies concerning the Shedd Street Garages property have been discussed in Section B of this report and therefore, will not be reiterated here. It is the strong recommendation of this report that the Town acknowledges that this property has little or no future as a town-owned facility.

In the early stages of preparing this report, there was considerable conversation about and interest in examining this site, made up of two adjoining lots, to see if this might indeed be a suitable location for a new emergency services complex. After all, the two properties combined appear to be slightly more than two (2) contiguous acres. Furthermore, the Town of Enfield currently owns the property and it is within the village area, near to US Route 4, while not being directly, and potentially problematically, accessible from this main highway.

To be able to evaluate not only this site but also other possible sites that might be able to accommodate a new emergency services facility, this office developed a “foot print” of what we believe to be an ideal prototypical new emergency services building, including the necessary parking and vehicular access and maneuvering space. With a new building 80-feet across for the fire equipment portion of the facility, plus apron depth of 65-feet on either side, that equaled a minimal required lot depth of 210-feet, not including other considerations such as landscaping and other setback areas. Unfortunately, when this overall footprint was superimposed onto the two existing Shedd Street lots, there was not enough lot depth which, at its widest point, is only about 230-feet before it narrows to well less than 200-feet. For this reason, and the strong belief that were the Town not the present owner of this site, there would probably be little or no interest in this location as a potential site for a new Emergency Services complex. This is, after all, a well-established residential neighborhood. Therefore, with the above analysis in mind, this report makes the following recommendation concerning both Shedd Street parcels.

The Town should first clean up the entire site by removing all of the remaining structures including all foundations and other old site improvements. The site then needs to be checked for any contamination, and certified as being clean. Given the overall configuration of the two parcels and the amount of area of same, the Town could create a new four (4) lot subdivision that meets the minimum standards of the adopted zoning ordinance. A proposed preliminary layout is shown on an accompanying plan as part of this report. At this time, based upon the information at hand, each new lot would be slightly larger than the minimum required lot size of 20,000 square feet, as per the zoning ordinance. As a point of reference, it should be noted that the adjacent residential property located at 25 Shedd Street has a current land value assessed at $77,200 for a .68 acre lot. A simple budget for this scheme potentially looks as follows:

1.	Building Demolition:	$50,000.
2.	Engineering and Surveying:	$7,500.
3.	Environmental Certification:	$10,000.
4.	Total:	$67,500.

As to the sale of the four lots, assume $75,000 each = $300,000., less real estate commission fees of 10 percent = $30,000., less demolition/cleanup/engineering and surveying costs = a net value of $203,000.

As a point of reference, the Town has the two existing land parcels assessed at a combined total of $252,600. It should be kept in mind that there is municipal water and sewer service in Shedd Street.

An alternate approach to the above would be for the Town of Enfield to simply sell the two (2) existing properties as they presently exist, and just be done with the matter. We suspect that while the Town may not want to be, short term, in the real estate development business, selling these two properties as they exist in their present state would probably only recognize minimal value from them due to "unknown" potential risk factors likely to be assumed by a would be buyer.

Transfer Station

At this time, this report has nothing additional to offer concerning this facility, other than the comments and observations contained within Section B of this report.

Enfield Center Town House

When the Town Manager's office issued the initial *Request For Proposals* (RFP) on August 2, 2018, there were only ten (10) buildings and facilities listed to be studied as part of this project, and that list did not include the Enfield Center Town House. After this office was selected and commissioned to undertake the study articulated by the RFP, and subsequently compile this report, this Town-owned property was added to the list of the other Town-owned properties to be studied. That change was totally agreeable to this office and the fee amount previously quoted to the Town of Enfield was not adjusted upward accordingly.

As noted in Section B of this report, the Town House was examined with the same level of thoroughness as all of the other ten (10) facilities. However, since late last fall, after considering the full extent of the condition of the building and the full extent of its individual needs, and the facility needs of the Town at large started to become clear, it became apparent that it is perhaps best that the Enfield Center Town House, be set aside from the remainder of the content and thrust of this report. However, on March 14, 2019 this writer did prepare a memorandum to the Town Manager concerning this property, and recommendations for its long term preservation. Since this was intended as a public document, and distributed to individuals gathered at a meeting called to discuss this public building, we believe that the entirety of memorandum be included within this report.

Memorandum

To: Ryan Aylesworth, Enfield Town Manager.
From: Frank J. Barrett, Jr., A.I.A. Architect.
Date: March 14, 2019.
RE: Enfield Center Town House; Enfield Center, NH.
Subject: Moving Forward and Understanding the Issues.

Dear Ryan,

For the past many months now I have had ample opportunity to exam and reflect upon the Enfield Center Town House, and the many issues that are unfortunately afflicting this historic property owned by the Town of Enfield. Therefore, I offer this memo/document as a way of not only organizing my many thoughts relative to the matter of this building and its preservation; but also to enable you and others associated with this property the ability to see the matter as comprehensively as possible. I offer these comments as part of the 'pro-bono' architectural

work concerning this building that I publically offered the Town last June 2018; and as not part of the Municipal Facilities Optimization Study (MFOS) which the Town has subsequently hired me to undertake concerning other town owned properties and is currently ongoing.

First, let me be clear, that for many years I have greatly appreciated this little gem of an historic building. Both its architecture and its history are indeed very much intact, still relevant, and uniquely worthy, I personally believe, of being preserved for future generations to study, appreciate, and enjoy. However, with that said, it has become painfully apparent to me that to properly preserve this special property is no simple task, nor for the faint of heart, as it were.

While the building remains marvelously and virtually frozen in time circa 1909, from the time when it was last renovated and somewhat updated, the entire floor structural system has significantly deteriorated to the point where it is now very dangerous to use the building in any way. The danger of the floor collapsing into the crawl space below it is very real; and there is no simple or easy fix available other than a complete removal and replacement of the entire structural floor system. This has been not only verified and documented by myself, but by Timothy L. Schaal, PE. Mr. Schaal is a very capable and experienced structural engineer with a well-grounded sense of historic buildings who has been working with this office on the Enfield MFOS report. In late October last Fall, when he and I spent some time on site evaluating the building as part of the MFOS report, and he was alarmed at the amount of wide spread structural deterioration (rot) that he observed by actually getting into the crawl space and examining the floor structure up close and in some amount of detail. His notes concerning the building are attached to this memo.

The need for substantial structural work on the building does not in any way in my mind mean that the building should be abandoned or razed. In fact, I believe quite the contrary; however, taking a holistic and realistic view of the matter, what is at hand is not just a matter of rebuilding the floor system in the building and being done with it. The floor system is, in and of itself, going to be a sizable expense that must be considered within the context of whatever else the property needs so as to properly function for many years to come. Or put another way, the necessary floor replacement is only a partial step so to say of a much larger, and equally as important, series of steps that must be undertaken to permanently secure the property for future generations of use.

As we know, the building is situated on a very small piece of land and beside a small brook that on occasion floods, filling the building's crawl space with water. Furthermore, there is no space to develop necessary vehicular parking on the site, nor adequate space for on-site potable water supply and waste water disposal. And at this time there is no parking, water supply, nor septic system on the property associated with the building. Nor are there at this time any plumbing (toilet) facilities within the building. As I say, the building and site are virtually frozen in time. Therefore, I am recommending that a broad five (5) point plan for potentially salvaging the building and ensuring its future be considered, as follows:

1. Purchase additional land adjacent to the present site.
2. Move and stabilize the building.
3. Undertake necessary site improvements.
4. Undertake necessary building improvements.

5. Establish capital or endowment funds to properly provide for the building's longevity and future.

Salvaging the Building and Ensuring its Future

1. Purchase additional land adjacent to the present site.

I believe that an attempt to purchase the entire 21 acre property owned by Charles H. Muzzey, Jr. (tax map 8 / lot 16), that abuts the Town House lot on two (2) sides, should be made. The mobile home presently located on the lot be removed; the Muzzey lot subdivided such that a certain amount of land would be annexed to the Town House lot (perhaps five acres +/-); and the remaining back area of the lot then sold either to an abutter or as a stand-alone residential lot (about fifteen acres +/-). By removing the existing mobile home, it might be possible to utilize that facility's potable water supply. The current New Hampshire state building and fire codes do not require that the present Town House building be equipped with an automatic sprinkler system. Therefore, the water supply needs for the building are not that significant. At this time it appears doubtful if the septic system serving the existing mobile home could be salvaged and made to serve the Town House. The current total assessment by the Town of Enfield on the Muzzey property is $119,400 ($103,800 land plus $15,600 for the building). Of the land value, the assessment is broken down at $87,400 for the raw land plus $16,400 for improvements.

2. Move and stabilize the building.

Move the building westerly away for the small brook and onto a new poured concrete foundation such that the front of the building has the same visual relationship to the highway (NH Route 4A – the Fourth New Hampshire Turnpike). Rebuild the floor system and take care of any other building stabilization/structural repair work necessary.

3. Undertake necessary site improvements.

Develop new driveway access, parking, water supply, waste water, landscaping, and storm water run-off improvements. At the former locations of the Town House and the mobile home, re-grade, loam, and seed those areas.

4. Undertake necessary building improvements.

Develop a new addition that only lightly touches the rear of the existing Town House building that includes a new HC entrance and HC toilet facilities (see building occupant load and plumbing fixture requirement discussion at the end of this memo). Install a new electrical service into the building and re-wire the building accordingly. Clean, repair, and re-paint the building as needed.

5. Establish capital or endowment funds to ensure for the building's longevity and provide for future maintenance and upkeep.

I believe that it is important that the historic property be left with a capital fund, or an endowment, or both, to secure the building's future, and provide for the building's proper maintenance and upkeep.

Applicable Building Codes and Requirements

Broadly speaking, this is considered a public building and falls under the jurisdiction of both *the New Hampshire State Building Code* and the *State Fire Code.* Specifically, as to this building, the Building Code is the more applicable and comprehensive of the two State codes. These two codes are applicable throughout the State of New Hampshire; and it is each municipality's responsibility to see that they are enforced. As to this specific project, the first and most important building code requirements are, as per the *2009 International Building Code (IBC)*, which is adopted by reference as part of the *New Hampshire State Building Code,* the following:

1. **Building Occupancy Classification:**

   The entire building is classified as an "A-3" Assembly Use. This in turn dictates matters having to do with exiting and egress, the occupant load within the building spaces, handi-capped accessibility, and the type and amount of plumbing fixtures required. Other important aspects are considered as well; however, for the purposes of this discussion, these are the most impacting and guided our initial understanding of, and planning for, the building in general.

2. **Building Occupant Load:**

   As per IBC Chapter 10, Section 1004, the occupant load of the existing building is as follows:

   - The existing open meeting room space measures 39'-6" X 42'-6" = 1,678 net square feet:
     - At one (1) person per 7 square feet seated in chairs = 240 persons.
     - At one (1) person per 5 square feet standing = 336 persons.
   - The existing stage area measures 16'-0" X 39'-6" = 632 net square feet:
     - At one (1) person per 7 square feet seated in chairs = 90 persons.
     - At one (1) person per 5 square feet standing = 126 persons.

   Based upon the above calculations, as per the applicable building code, there would need to be had a conversation and agreement with the local Enfield Building Inspector and the Enfield Fire Chief as to the exact type of assembly use the building will be allowed to accommodate, and the legal limit of the subsequent occupant load. I would propose assembly with persons seated and not standing in both the hall area and on the stage. I believe that a posted occupant load of two hundred (200) persons in the hall area and twenty (20) on the stage are reasonable and appropriate occupancy load numbers.

3. **Plumbing Fixture Requirements:**

   Based upon the above suggested legally limited maximum occupant load for this "A-3" Assembly Use facility of 220 persons, and assuming that that total occupant load is split evenly between male and female (110 males and 110 females), as per Table 403.1 of the 2009 *International Plumbing Code* with New Hampshire amendments, the number of plumbing fixtures required for this buildings is as follows:

   - Male:
     - One (1) water closets.
     - One (1) lavatory.
   - Female:

  - Two (2) water closets.
  - One (1) lavatory.
- Other:
  - One (1) drinking fountain.
  - One (1) janitor's service sink.

4. **Handi-Capped Accessibility:**

   The applicable sections of the building code require the following:
   - All public areas of the existing and new addition are required to be made accessible, including the existing stage area within the existing town hall structure.
   - Accessible toilet room facilities are required for each sex. A single uni-sex toilet room is not permissible.
   - Construct a new rear addition for purposes of HC access and men's And women's toilet facilities, and janitors/maintenance closet: $200,000.

   - **Subtotal for category #4: $320,000.**

Total of all categories 1 through 4: $600,000.
Plus a 15% contingency factor: $90,000.
Total potential project cost: $690,000.

Frank J. Barrett, Jr., A.I.A.
Architect
March 14, 2019

As the above memorandum suggests, the issues that the Enfield Center Town House faces are very real, very significant, and potentially expensive. As to the priority that this Town-owned building should be, that is a discussion that is best taken up by the citizens and tax payers of Enfield; and therefore remains beyond scope of the third section of this report. This is a very special facility that demands a very specific conversation.

End of Sub-Section C-2: Existing Facilities

C-3: Recommendations – New Facilities

As briefly touched upon at the beginning of the third and final section of this report, it is the concluding recommendation of this lengthy study that, in addition to the Town of Enfield considering the alternatives and recommendations as to existing facilities and properties discussed above, that the following new or partially new facilities be developed, in this order of priority:

1. An entirely new **Emergency Services** facility.
2. An entirely new **Municipal Offices** facility.
3. An expanded and renovated **Library** facility.

And, as an integral part of developing these new or renovated facilities, the following existing town-owned properties are recommended to be sold:

1. The Union Street Fire Station.
2. The Depot Street Station.
3. The Shedd Street Garages property.

A New Emergency Services Facility

Beginning last fall, five (5) sites have been examined as part of this study and subsequent report as potential locations for a new Emergency Services facility, with the idea of combining all police, fire, ambulance, and rescue services, with the exception of keeping the existing Enfield Center Fire Station on line.

In order to best evaluate these potential sites, a "template" of a new emergency services building was developed that measures 80-feet by 140-feet, and equals 11,200 gross square feet. As illustrated by the sketch titled *Proposed Emergency Services Building Schematic Floor Plan,* this layout allows for sufficient space for individual police, fire, ambulance, and rescue functions, as well as those functions that are shared between these four (4) services. It also allows for ten (10) equipment bays 40-feet by 15-feet each. The overall square foot areas break down as follows:

- Police: 3,200 gross square feet.
- Police Sallyport and Holding: 672 gross square feet.
- Police and Fire Common Area: 1,328 gross square feet.
- Fire Equipment Bays: 6,000 gross square feet.

Furthermore, this schematic building design envisions an unfinished second floor area measuring 24-feet by 66-feet that equals 1,584 gross square feet, for future living quarters should the time come when the Town needs to have some amount of a manned fire station. Were this second floor area to be finished off at a future date, the total finished gross building area would be 12,784 s/f.

As a comparison, the gross square foot area of the following combined emergency services facilities in the following communities were reviewed:

- Hartford, VT: First Floor = 15,901 s/f + Second Floor = 5,521 s/f. Total Building area = 21,422 s/f.
- Hanover, NH: First Floor = 14,393 s/f + Second Floor = 7,949 s/f. Total Building Area = 22,342 s/f.
- Moultonborough, NH: First Floor = 10,738 s/f + Second Floor = 1.404 s/f. Total Building Area = 12,142 s/f.

Because the three fire stations operated by the City of Lebanon are all at least forty-five years old, and are not combined with the City's Police Department, Lebanon's facilities were not considered as part of this study.

At this time, without the benefit of further and more detailed preliminary design development, we believe that this amount of overall building area and configuration suitable for the Town of Enfield is the maximum required at this time, and may well prove out to be a bit in excess of the final amount to be determined by more detailed preliminary design work.

The five sites, in the order with which they were considered, are:

1. The **Shedd Street Garages** site located at 7 and 15 Shedd Street.
2. The **Department of Public Works (**DPW) site located at 74 Lockehaven Road.
3. A portion of the existing **Huse Park** site located at the intersection of main Street and US Route 4.
4. The **Hawthorne Property** located at 212 US Route 4.
5. The **Brownie's Automotive Property** located at 223 US Route 4.

Below is a summary of our findings of those five locations.

The Shedd Street Garages site.

This site has previously been discussed within the *C-2: Recommendations – Existing Facilities* section of this report and will not be repeated here.

The DPW Site.

At a first glance, this site certainly appears to have merit due to the fact that the land is presently owned by the Town of Enfield, and the lot area is about 27 acres in total size. However, several things must first be kept in mind:

A. The topography of the lot is varied and very challenging, with the existing DPW buildings and operations and facility already occupying the most readily usable portion of the site.
B. Approximately 7.5 acres of the lot has been placed into permanent conservation status by legal easement, and cannot be altered or built on. This portion of the lot is swamp and wetland area.
C. It is reasonable to think that given the very different functions of DPW and Emergency Services, mixing these two very diverse and different operations into one expanded facility is a very poor idea at best.
D. The only remaining area of the entire parcel that is possibly available for development is an area of the existing lot adjacent to Lockehaven Road, which is about 2 plus acres in size. However, most of this land area is below the level of Lockehaven Road and is a swamp/wetland area that would require a great amount of filling to bring it up to the level of Lockehaven Road to become usable. Given the amount of wetlands, if this was possible, it would require a great amount of State permitting. This necessary amount of State permitting and combined filling present a great increase in the cost of developing this site compared to the preferred site discussed below.

In spite of these drawbacks and constraints, a schematic site plan has been developed to allow, at a preliminary level, an informed examination of this site. A copy of that drawing, titled *Town of Enfield New Emergency Services Facility; 74 Lockehaven Road; Enfield, New Hampshire,* dated March 21, 2019, is attached to this report for the reader's review. To provide equal analysis of the five sites, the same building footprint and site requirements that were developed by this office and first applied to the analysis of the Shedd Street property were also used to examine this site. Also, within this area of the

site would need to be storm water run-off retention and treatment, and on-site wastewater treatment areas.

The analysis and resulting schematic site plan have demonstrated that while in the abstract, this site could function as a location for a new Emergency Services facility. However, the resulting site development costs and the expense and very real uncertainty of the associated wetlands permitting all conspire to make this potential option very unfavorable. Given the other potential locations that were studied, this site certainly appears less than desirable.

The Huse Park Site.

Like the DPW site, since the Town already owns this property, and has long made multiple uses of it (recreation and civic meeting space), it was agreed that this site, despite potential obstacles, should too be examined a part of this report.

It appears clear that the land area that was the original gift of property by George Huse can only be used for recreational purposes. However, the additional adjacent parcels acquired over the years that have been added to the original property do not have the same restrictions or limitations. This is certainly true in the area where the Enfield Community Building is situated, as well as the area of Huse Park that fronts on Main Street. Regardless of the potential issues concerning use of the property, a schematic site plan was developed to examine the advantages and disadvantages of this location as a possible site for an Emergency Services facility, and potentially a new Municipal Offices facility as well. A sort of "campus" like approach that also sought to embrace the presence of the existing Enfield Community Building. A schematic site plan titled *Town of Enfield New Municipal Complex; Main Street & US Route 4; Enfield, New Hampshire*, dated January 27, 2019 is attached to this report and is the result of this site analysis. One of the benefits of this site is the presence of municipal water and sanitary sewer.

After analyzing the Huse Park site as a possible location of a new Emergency Services building, it did not provide a very solid option, but it did prompt some benefit and a better understanding of the overall property as follows:

A. The Town very much needs to commission a full boundary survey of the entire parcel. Various old deeds and maps of the property do not match information shown by the Town's Tax Maps. And, a complete boundary survey will accurately locate important utility infrastructure and easements, as well as identify the interior boundaries of the original Huse gift.
B. In spite of deed restrictions placed upon the original Huse parcel when it was gifted, it clearly appears there is a very usable area within the front portion of the lot adjacent to Main Street that could readily accommodate a new Municipal Offices building. A through boundary survey of the entire lot will firmly establish the limits of the original Huse gift, and those individual properties that have since been added.
C. It could be very much in the Town's long-range interest to work with both the adjacent Mascoma Bank and the Fairpoint property owners to secure additional land area from each of them such that a contiguous area of Town ownership is in place from Huse Park to Whitney Hall. Presently, there are only easements to the Town of Enfield across those two privately held lots.

To conclude this discussion examining the suitability of the Huse Park site to accommodate a new Emergency Services facility, we offer the following comments.

Certainly, if needed, the site could be made a location for a new Emergency Services facility; however, because of the size of the building required and other site considerations, there would likely be legal issues related to George Huse's original gift of land. There is no denying the fact that locating such a

facility upon the land area that could be made available would make for a somewhat constricted site, something not compatible with the long-term goals and objectives of the Town.

The Hawthorne Property Site

This site offers some appeal because of its adjacency to both US Route 4 and the down town Enfield village area and because the property is on the market and potentially available. Therefore, this study chose to make a serious examination of the viability and suitability of this site as a potential location of a new Emergency Services facility.

The property is approximately 5.5 acres in overall area, with an existing single family residence and detached garage situated within the upper northwesterly corner of the lot adjacent to US Route 4. The entire lot is somewhat steeply sloped to the southeast, with a drop of approximately 90-feet between US Route 4 and the Oak Grove Cemetery below. The lot is primarily open land and appears reasonably well-drained. It borders on US Route 4 and Oak Grove Street, neither of which are controlled access highways.

The ideas expressed by the attached schematic site plan titled *Town of Enfield New Emergency Services Facility; 212 US Route 4; Enfield, New Hampshire,* dated March 5, 2019 are several fold. First, to subdivide off slightly more than one (1) acre of land upon which the existing single family residence and garage building stands, and sell that property. Then, within the widest area of the remaining lot, develop a site for a new Emergency Services facility with associated vehicular parking and circulation areas.

The attached schematic site plan demonstrates that indeed the site can accommodate the same new building footprint and the associated parking and circulation areas utilized in the previously discussed site analysis; although the amount of site re-grading is very significant in order to create a wide enough “shelf” upon which to situate the complex.

Of significant issue with this site is the matter of safe and suitable vehicular access. Although US Route 4 is not a limited access highway, the drop of grade from the road onto this lot is significant. So much so that creating a driveway access that can properly and safely accommodate large emergency vehicles entering and exiting the property is impractical. Therefore, that leaves access off of Oak Grove Street. This preliminary site plan demonstrates that while it is very possible to create a very safe and usable drive from the street up to the location of the proposed new complex, Oak Grove Street remains very problematic. The street is very narrow and has steep grades. Additionally, the intersection with US Route 4 is not a perpendicular point, but instead an angle that potentially decreases the visibility for emergency vehicles. As a side note, it does appear that this site could accommodate storm water retention and treatment. Also, municipal water and off-lot water and sanitary sewer service are available – all pluses in favor of the site.

After a considerable amount of study, we conclude that if this site were forced to, it could accommodate a new Emergency Services facility, as illustrated by this study preliminary site plan. The cost of site work upon the lot would be disproportionally high; and the added cost of improving Oak Grove Street, and its intersection with US Route 4, while achievable, would likewise be very costly. Therefore, this alternative, while offering some amount of potential, was set aside in favor of a fifth site almost immediately across US Route 4.

Brownie's Automotive Property Site.

During the time spent studying the Hawthorne property as a potential site for a proposed Emergency Services facility, the question of the Brownie's Automotive property came up. It was confirmed that indeed this site was potentially available for purchase.

This property is situated on the northerly side of US Route 4 and the approximately 2.4 acre lot is only partially developed at this time. Generally speaking, the overall configuration of the land parcel is a large and well-proportioned square area that borders on Flanders Street, with a smaller and somewhat narrow "panhandle" area that extends out to US Route 4. A simple single story older commercial building of wood frame construction, with parking and a curb cut out onto US Route 4 is located on the panhandle shaped portion of the lot. The property is presently served by municipal water and sanitary sewer. The rear portion of the property remains undeveloped and is mostly open land with only a very gradual upland northerly slope of no more than 10 feet. Based upon the Town's mapping system, there is a narrow part of the lot, about 12 feet wide, that runs parallel to Flanders Street out to US Route 4.

The idea expressed and illustrated with the attached drawing titled *Town of Enfield New Emergency Services Facility; 223 US Route 4; Enfield, New Hampshire,* dated March 17, 2019, is several fold. The existing commercial building would be completely razed and a new 30-foot wide primary access drive into the interior of the lot constructed. Using the same new building and related areas template, a new Emergency Services complex can be placed within the broad square main area of the lot and develop a second vehicular access point out onto Flanders Street developed. It is clear that the lot can easily accommodate ample vehicular parking and circulation, pedestrian traffic, and storm water retention and treatment all in a comfortable design. Also, the site can accommodate some amount of building expansion at a future date. As an added benefit, the area the present commercial building occupies could easily accommodate a basketball court or two for use by Enfield's youth or emergency services personnel. From an energy conservation point of view, this site offers excellent solar potential, and due to the hill that rises to the north steeply behind property, the site has some amount of protection from winter winds. These two factors provide the potential of developing a net zero energy efficient building design. It should be noted that the Hawthorne lot offered these same advantages.

As to emergency services vehicles entering onto US Route 4, this scheme shows the addition of an emergency light at US Route 4 where there are satisfactory sight lines in both directions.

In conclusion, concerning this site we believe that this location clearly outshines the other four sites considered in every respect, while offering no apparent downside. Of added appeal, we believe that the site development costs would be more modest than for either the Hawthorne or DPW alternative sites.

A New Municipal Offices Facility

In addition to examining Whitney Hall and the Police Station sites for an expanded Municipal Offices facility as discussed above, in combination with the Enfield Public Library, this study also examined the following locations:

1. That portion of the **Huse Park** property that fronts on Main Street and is not encumbered by deed restrictions.
2. The property located at the intersection of Main Street and US Route 4 that we refer to as the **Gyste Corner** site.

Similar to the exercise of developing a "template" with which to evaluate potential emergency services facility sites, a block of space was created measuring 50-feet by 80-feet, that equaling 4,000 gross

square feet, that we believe could well serve as a new, efficient, two-story municipal office facility. As illustrated by the sketch titled *Proposed Municipal Office Building Schematic Floor Plan,* this layout allows for sufficient space for the basic municipal functions as follows:

- First Floor:
  - Town Clerk and Assessor: 1,600 gross square feet.
  - Public Meeting Room: 1,216 gross square feet.
- Second Floor:
  - Town Administration: 1,216 gross square feet.
  - Planning, Zoning, and Building Code Administration: 1,600 gross square feet.

This scheme envisions the existing Police Station building becoming new location of the Enfield Recreation Department; and the building not being razed, sold, or otherwise disposed of.

As a comparison, the gross square foot area of the following municipal office building facilities in the following communities were reviewed:

- Hanover, NH: First Floor = 3,520 s/f + Second Floor = 3,520 s/f + basement = 3,520 s/f. Total Building Area = 10,560 s/f. This facility was constructed in 1928 as a combined police, fire, and municipal office facility. Since 1987 it has been only used as Hanover's municipal office building.
- Moultonborough, NH: This is a single story facility constructed in 2002; and has a total footprint area of 9,592 gross square feet. It should be pointed out that Moultonborough is a very similar community to Enfield as to population and demographics.

The Huse Park Site.

This site offers some excellent potential for a new free standing Municipal Offices facility, as illustrated by the attached drawing prepared by this office titled *Town of Enfield New Municipal Facility; Main Street & US Route 4; Enfield, New Hampshire,* dated March 22, 2019. The area of the existing site that was analyzed was the westerly facing portion of the lot adjacent to Main Street, where the present basketball court is located. This area does not appear encumbered by any deed restrictions or easements.

Using the proposed new municipal office building footprint template described above to analyze this site, there are numerous advantages in favor of this location including:

A. The Town of Enfield already owns the property.
B. By re-developing the area of the lot as shown on the attached preliminary site plan, vehicular access to the entire Huse Park site would be greatly improved. This is an important consideration because both Main Street and US Route 4 are NH DOT controlled highways, and there is concern about the intersection of these two streets and Huse Park.
C. By relocating the existing basketball court, the recreational use of the property can be preserved. Additionally, this scheme does not negatively impact the existing Pavilion Building.
D. The Enfield Community Building can play a better supporting role with an adjacent new Municipal Offices facility by providing a bigger meeting hall if needed for larger town functions. And all the uses, present or proposed on the site, are compatible with one another.
E. This proposed location keeps the Municipal Offices within easy walking distance of Enfield Public Library and other village uses and functions. Were the present Police Facility to be

kept and converted into a facility for the Town's Recreation Department, that too is within an easy walking distance.

F. There is sufficient room for future expansion of the building if deemed necessary. And there is sufficient vehicular parking on the site.
G. The overall site development cost for this scheme would be, relatively speaking, modest given the property as it presently exists. And, municipal water and sewer service are readily available.

The potential disadvantages of the site are few but should be none the less kept in mind. The most important is that it could be argued that this proposal maximizes the use of the entire Huse Park property. While this may not in and of itself be of concern, it does beg the question whether the amount of available vehicular parking would be sufficient were all three (3) facilities on the site to be in full functioning capacity: Municipal Offices, the Enfield Community Center, and the ball field on Huse Park. Therefore, it would be important to explore the idea of working with the owners of the adjacent Mascoma Bank and Fairpoint properties to secure vehicular access across the rear of two lots to link up the present town-owned Whitney Hall and Police Station lots with Huse Park. With the cooperation of these two property owners, and a certain amount of New Hampshire DES permitting, this could certainly be achieved. At this time, there are both separate sewer line and walking trail easements across the rear of these two properties. By adding vehicular access, it expands the available pool of parking, especially for the recreational users of Huse Park.

In closing on this potential site, the subject of vehicular access as discussed above should be pursued with the two adjacent property owners regardless of the eventual location of the Municipal Offices. The overall possibility makes for good long range planning and flexibility for the Town of Enfield.

The Gyste Corner Site

This study also examined the feasibility of the "Gyste Corner" property, combined with a portion of the adjacent lot to the southwest; property owned by Donald E. Wyman, Jr. The Gyste Corner property, Tax Map 33 / Lot 35, is a 0.6 acre triangular shaped parcel of land located at the intersection of US Route 4 and Main Street. The address of the property is 12 Main Street. The Wyman property is a 0.94 acre lot with a single family residence situated at the very southwesterly end of the long and somewhat narrow shaped lot, with the portion of the lot that abuts the Gyste lot being an open, mowed lawn area.

Using the same proposed new municipal office building footprint template developed to analyze the Huse Park and Whitney Hall sites, this site was similarly studied. The primary thrust of the exercise was to explore the possibility of locating the 50-feet by 80-feet building on the Gyste lot, with parking on the lower undeveloped portion of the Wyman lot. Vehicular access would be off of both US Route 4 and Main Street. Although the development of parking areas can be within building setback areas, any new building must be located back a minimum of 30 feet from the lot's property lines along both streets.

After some amount of study, it was determined that given the overall existing configuration of the two properties in question, the site could not reasonably accommodate a new Municipal Offices facility suitable for the long-term needs of the Town of Enfield. This was however a worthwhile exercise.

In conclusion, this study has determined that as to the matter of developing a new Municipal Offices facility that will serve the Town of Enfield's needs for the long term, there are two (2) readily viable options.

Option Number 1:

Redevelop the existing Whitney Hall site, as discussed above, working with the Enfield Public Library.

Option Number 2:

Develop a new stand-alone municipal offices only building at the westerly front portion of Huse Park.

As previously discussed, the greatest potential obstacle, is the question of the fate of the existing Police Station building. These two (2) options present the following fundamental choice that must be considered:

1. To make the **Whitney Hall** option viable for the long term, the existing Police Station building must be removed from the lot and the Recreation Department be located within the lower level of the new combined municipal offices and library addition to Whitney Hall.

2. If the **Huse Park** option is implemented, then the existing Police Station building can very well remain and easily accommodate the Enfield Recreation Department for the long term.

We believe that this report has made clear that converting the existing Police Facility building into municipal offices is neither a sound nor viable option for the long term. While in the abstract anything is possible with a building assuming there are enough resources, this would not be a responsible expenditure of public resources in the long term nor would it bring the greatest value.

End of Sub-Section C-3: New Facilities

C-4: Preliminary Cost Projections

At this time, the only available means of developing opinions of preliminary cost for the differing options discussed in this report is entirely based upon applying what appear to be reasonably probable based square footage multipliers to conceptual building types. The reader must understand that in the process of developing more comprehensive and detailed site and building plans, there are many factors that can influence the final cost of a building project – some that the architect and the team of consulting engineers can attempt to control, and others that unfortunately cannot. Nonetheless, it is only reasonable that a responsible attempt be made as the final conclusion of this report.

Priority Number 1

A New Emergency Services Facility at the Brownie's Automotive Property Site.

As previously discussed, this study contemplates the following new building in concept:

- A new building that measures 80-feet by 140-feet = 11,200 gross square feet, with an unfinished second floor area that measures 24-feet by 66-feet = 1,584 gross square feet.
- Concrete slab on grade with conventional steel framed long-span steel bar joist construction. Internally drained membrane roof. Highly insulated building shell aiming for being an efficient net zero designed building.
- Site development to ensure pavement sub-grade suitable for heavy traffic loading conditions, utility development, adequate on-site storm water treatment, and landscaping.

Therefore:

• Land purchase at currently assessed value:		$305,200.
• Site clean-up and re-development:		$150,000.
• New Building:		
o First floor: 11,200 s/f X $325 per s/f:	$3,640,000.	
o Second floor (unfinished): 1,584 s/f X $150 per s/f:	$237,600.	
o Sub-total new building cost:		$3,877,600.
• **Total Project Cost less A & E Fees:**		**$4,332,800.**

Priority Number 2 – Option Number 1

An Addition to Whitney Hall to Accommodate Expanded Municipal Offices and Library as One Facility.

• Raze existing Police Station facility:	$35,000.
• New site improvements:	$150,000.
• Renovation of existing Whitney Hall Library area:	
o 3,600 s/f X 2 = 7,500 s/f X $150 per square foot:	$1,125,000.
• New three story addition:	
o 5,640 s/f X 3 = 16,920 s/f X $250 per square foot:	$4,230,000.
• **Total Project Cost less A & E Fees:**	**$5,540,000.**

Priority Number 2 – Option Number 2

A New Stand-Alone Municipal Offices Facility at the Huse Park Site.

- New site improvements: $50,000.
- New two-story office building:
  - 4,000 s/f X 2 = 8,000 s/f X $300 per square foot: $2,600,000.

- **Total Project Cost less A & E Fees: $2,650,000.**

Priority Number 3

An Expanded Enfield Public Library That Remains in Whitney Hall and has Use of the Entire Building.

- Renovation of existing Whitney Hall Library area:
  - 3,600 s/f X 2 = 7,500 s/f X $150 per square foot: $1,125,000.
- New two-story addition:
  - 1,500 s/f X 2 = 3,000 s/f X $275 per square foot: $412,500.

- **Total Project Cost less A & E Fees: $1,575,500.**

C-4: Summary of Conclusions and Recommendations

Based upon all of the above findings, we believe that the best set of options for the Town of Enfield is, in order of events and priority, as follows:

One: Clean-up and re-subdivide the two Shedd Street properties into four (4) residential lots.

Two: Work with the owners of the Mascoma Bank and Fairpoint properties to acquire in fee the rear portion of those two lots that is adjacent to the bank of the Mascoma River. At the same time commission a full boundary survey of the entire Huse Park property.

Three: Develop a plan to make repairs and roof modifications to the entire rear wall area of the existing DPW facility located at 74 Lockhaven Road; to repair the masonry foundations of the Enfield Center Fire Station located at 1100 NH Route 4A; and to make repairs to the Pavilion Building at Huse Park.

Four: Develop a new Emergency Services Facility on the Brownie's automotive site, at a cost rounded up to $4,500,000.

Five: Sell the Union Street Fire Station and the Depot Street properties.

Six: Convert the existing Police Department building at 19 Main Street into a facility for the Enfield Recreation Department at a cost of $75,000.

Seven: Develop a new stand-alone Town Offices facility on the Main Street front of the Huse Park site, at a rounded up cost of $2,700,000.

Eight: Re-develop Whitney Hall into an improved facility for the Enfield Public Library, at a rounded up coast of $1,600,000.

Thank you for the opportunity to be of service to the Town of Enfield with what has been a fascinating overall project.

Frank J. Barrett, Jr., A.I.A.
Architect

April 16, 2019

End of Sub-Section C-4: Preliminary Cost Projections and Summary