FALMOUTH SENIOR CENTER SITE FEASIBILITY STUDY

DECEMBER 2015

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SECTION 1
INTRODUCTION + EXECUTIVE SUMMARY

This feasibility study was commissioned to explore the site feasibility, cost and operations for a new senior center for the Town of Falmouth. This facility will replace the current facility which no longer adequately serves the aging population in Falmouth.

The first phase of the feasibility study involved studying four sites the Town selected prior to the start of this study. The goal of this phase was to narrow the site selection to those that were truly viable, ideally 2 alternative sites.

The second phase of the study went into a more detailed analysis of the sites including cost estimates, detailed site plans, and conceptual building diagrams prepared for the purpose of analyzing various site aspects.

The feasibility study took place over multiple months. Due to the conceptual nature of a feasibility study, the documents herein are preliminary. They articulate a working program, establish a footprint for the site feasibility study and show sufficient detail for the cost estimates. The program was prepared to establish a common baseline for building size in the analysis and will require development in the next phase of design.

The site and building designs presented herein are for feasibility study use. An actual design will be developed pending selection of a program and site. This development occurs through three subsequent stages: Schematic Design, Design Development and Construction Documents.

The feasibility study was presented to the Senior Site Feasibility Working Group, a Community Forum at which the general public had an opportunity to provide input and guidance in the site selection and planning process and to the Board of Selectman.

The mission of the Falmouth Council on Aging Senior Center is to advocate on behalf of the Falmouth Senior Residents age 60+ in addressing their needs by identifying and developing resources of assistance, provide information, referrals to other community agencies, outreach, health services, transportation, education and recreation programs and activities. There is a special emphasis in promoting Healthy Aging and Enhancing Quality of Life for Seniors AND their supporting family members.

Falmouth COA Senior Center functions as a prominent resource hub and focal point for Falmouth's growing senior population. Their vision is to create an environment that will engage and support the healthy aging goals of Falmouth's senior residents. The Town's investment of a new senior center is an opportunity to promote Falmouth as an age friendly community as residents strive to "Age in Place". They must plan for the expanding demand for services and for shifting interests and needs of Falmouth's Seniors.

EXECUTIVE SUMMARY

A new senior center for the Town of Falmouth is desired. The existing facility is old, undersized and in need of a renovation. Compared with neighboring communities (Mashpee, Marshfield, Yarmouth, Plymouth and Barnstable) Falmouth has the smallest and oldest senior. Senior centers provide two key roles in communities: promote wellbeing and provide services. The senior population in Falmouth is growing and the Town would like to expand upon its programing and services to improve the quality of life for its residents.

Falmouth would like to be known as a town that promotes an age friendly community as residents strive to "Age in Place" and a new senior center is a key step in supporting the residents.

Initial Feasibility

BH+A evaluated the Falmouth Board of Selectmen recommended sites for further consideration. The sites recommended for further study were **Teaticket School Administration**, **Brick Kiln Road**, **Gus Canty Community Center**, and the **High School**.

BH+A identified all attributes, constraints and limitations related to each site and its capacity to support the program of service planned for the Senior Center. Various cost drivers for each site were analyzed in a comparative manner.

BH+A conducted a preliminary analysis and coordinated a community forum under the purview of the Town Manager or Designee to review the evaluation and plan to maximize community involvement.

Conceptual Design, Facility Floor Plan and Site Evaluation

BH+A next developed conceptual floor plans and minimum facility needs based on the use projections developed by the Council on Aging. In addition to the floor plan the conceptual design included minimum site requirements such as parking and access for each of the sites.

The site evaluation included review of public utilities, permitting issues, traffic studies and future expansion opportunities.

Construction Cost Estimate and Estimated Operating Budget

BH+A prepared a feasibility level cost estimate for each of the sites. To assist the Town with planning for anticipated budget growth, an estimated operating budget for the proposed facility including staffing, utilities, maintenance and other operating expenses was prepared for comparison with expenses of the existing Senior Center. This was prepared in consultation with the Director of the council on Aging and the Town Manager.

Following the community forum a final report summarizing the findings was prepared and presented the Falmouth Board of Selectman.

Of the four sites selected by the Board of Selectman, Brick Kiln Road and Gus Canty were eliminated from further study. Two sites at the High School and the School Administration site were selected for the detailed second round conceptual design and feasibility study.

The study found that all sites could accommodate the Senior Center. The cost was relatively similar for the three sites. The most costly site was the Teaticket School Administration Site which also provided logistical concerns as the School Administration currently occupies the building and would continue to do so.

Operationally, the estimated cost for the new building is significantly more than the existing due to the larger size of the building. The plan as prepared does not factor in volunteer labor and other cost savings that may be implemented.

Each High School site displaces a playing field which will need to be replaced. A replacement location at the High School Site is provided with this feasibility study.

SECTION 2
PHASE 1 SITES CONSIDERED

PHASE 1

The project studies the feasibility of a new senior center for the town of Falmouth. The feasibility will be based on finding an appropriate site that will support an approximately 15,000-20,000 square foot building. The site study included some considerations toward the long-term town goals, including possible additions, connectivity to the town and easy access.

The senior center building would consist of a multipurpose room, multiple activity rooms, workout rooms, kitchen and office spaces. The center would include a space for the town nurse and other professionals to help support the seniors.

The parking requirement is between 100 and 150 cars. There is potential that for special events additional parking will be required. A covered drop off area is also key to the center.

THE SITES

Four locations have been determined as potential sites. One site looks into to redeveloping the former Teaticket School with the school administration. One considers the current location of the Police Athletic League on Brick Kiln Road. Another site looks into integrating the senior center next to the current community enter, Gus Canty. Lastly a site adjacent to the Falmouth High School was reviewed.

Site 1: Teaticket School Administration

This site has two options; either a new standalone Senior Center or an adaptive reuse with addition to the existing building. The existing is a former elementary school currently used by Falmouth School Administration. If this option is selected it is assumed that the School Administration will relocate to the High School.

The zoning district is Public Use which allows a Senior Center use. Building coverage up to 40% is allowed. Building and parking coverage up to 70% is allowed. The site is bounded by Residential 1 zones and neighbors. Two main streets serve the site, Teaticket Highway and Sandwich Road.

Presence of hazardous materials (asbestos and lead paint) is unknown at the existing building. Buildable portions of this site are relatively flat. There are a few trees. This site drops off towards Sandwich Road.

There are no environmental conditions to be concerned with. Site access is good from either side of the site. Through access from both streets will be good for daily traffic flows and emergency access. This site is on the edge of downtown. Certainly walkable from the Teaticket neighborhood, but not from town. Most access will be via car or van.

Parking is feasible. Overflow parking is also available. The building would likely be a 2 story one but a one story building will fit on this site.

Utilities are available at this site and it is our understanding that sewer is being extended to the intersection of Sandwich Road and Teaticket Highway. This could be extended into the site.

If necessary, the School Administration could stay in the school with a new building constructed for the Senior Center. All cases result in relocation of the existing softball field.

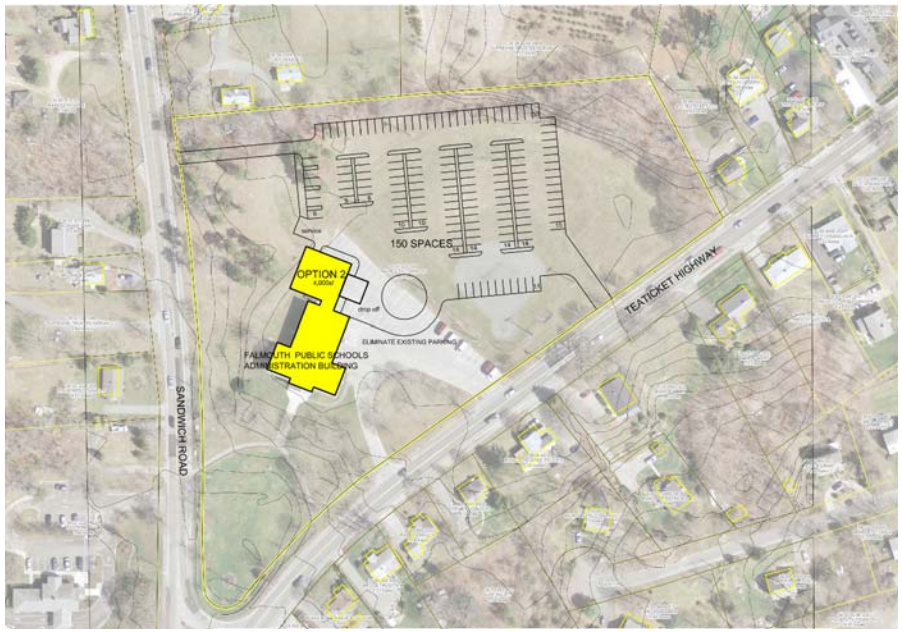
Access by Police, Fire and EMT is good. Travel distance second to Gus Canty.

Other outdoor activities are not available at this site. Adaptive reuse versus and new building will be the subject of a secondary study.

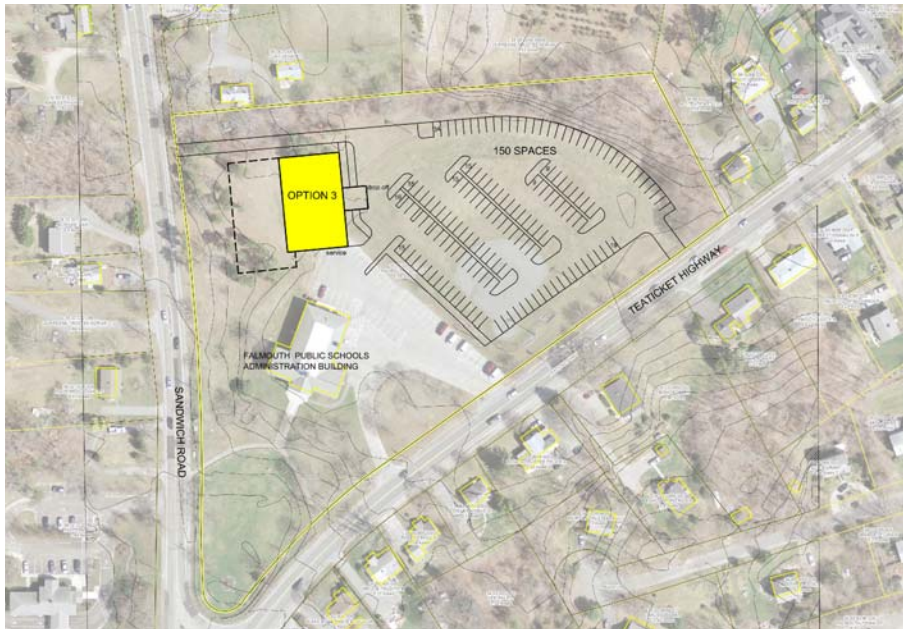
Site

Option 1

150 New Parking Spaces for the Senior Center and School Administration



Option 2
150 New Parking Spaces



Option 3
150 New Parking Spaces
41 Existing Parking Spaces
191 Total Parking Spaces

Site 2: Brick Kiln Road

The site is in Falmouth's Agriculture A zone for which the proposed use is allowed. The Agriculture A zone however only allows for 20% of the site to be covered by the building and 40% of the site to be covered by the building and parking lot. There also appears to be a deed restriction on the site related to access by the previous owner which needs further study.

The site is 1.32 acres or 57,499 sf. To house a 20,000 sf senior center program will require the building to be 2 stories given allowable lot coverage. Only 1,500 sf of the footprint is available for an addition.

Given the parking count of 150 cars and building footprint, a site in this zone needs to be a minimum of 4.02 acres or 175,000 sf versus 1.32 acres and 57,499 sf available. To make this site work requires purchase of all or part of an adjacent residential lot. That residential lot is in the same Agriculture A zone.

Even with the purchase is it likely that parking will migrate into the Town of Falmouth site that is deeded for recreational use. Obtaining a land swap to enable this site to be used is at least a 2 year process and requires legislation.

The lot fronts onto Brick Kiln Road, a moderately travelled road. At certain times, crossing traffic lanes to access the parcel (travelling east on Brick Kiln Road) will be difficult. Similarly, leaving the site to travel east on Brick Kiln Road can be a difficult turn at times.

The site is relatively flat and previously developed. It does not present an obstacle to development. A hazardous materials test of the existing building was not undertaken but given its age, these are unlikely.

The orientation for climate and possible solar panels is optimal. Frontage on the road limits shading from trees.

The site is generally in the geographic center of Falmouth and the road system allows for good access from all areas of Town. Construction access to this site would be the best of all sites as there is no disturbance of other programs. Police, Fire and EMT access to the site is good.

As a developed site, utilities are available. Sewer is not available so a septic system will be required.

The site is not large enough to support the program building and parking. Due to the residential abutter and deed restrictions on the recreation lands the site area shortcoming is not easily overcome without additional cost to procure land.

Site

Option 1

150 New Parking Spaces

Site 3: Gus Canty Community Center

This is the site of the existing Community Center, Police Station and High School Baseball/Football field. The zoning district is Public Use which allows this use. Allowable building coverage is 40% and building and site can cover up to 70% of this site. Thus in theory a 2.30 acre area is required for the building and 150 cars. The lower portion of the site where the field is located is in the 500 year flood zone. The upper portion of the site is not in this zone.

This site does not have a height restriction for municipal use but given the tight confines, a two story Senior Center is assumed.

There are 149 parking spaces on site in front of Gus Canty Community Center, not counting those by the Police Station or to the rear. This lot is seldom full from experience during the study. In fact, it is mostly vacant.

This site drops a full story from front to back over the width of the Gus Canty building.

Soil conditions are assumed satisfactory given the existing buildings. Area where the building would go is relatively flat although in certain locations the building might deck over parking at the lower grade, a more costly construction maneuver.

The site is fully developed. Natural features would not be lost. In fact, the site circulation is not ideal and the overall design could be improved with a comprehensive master plan affected by the Senior Center.

Flood consideration may preclude further consideration of the lower site option. This option also takes away the field and summer camps at Gus Canty.

Traffic access to this location is most difficult of all sites. Heavy traffic on Main Street will require a new access road off of Dillingham Avenue which could also have much needed parking. Access would also be provided from Morse Pond Road to the west.

There is a lot going on at this site. Proximity to the Community Center is perceived as beneficial for both the Senior Center and Recreation Center. However, ownership issues will need to be worked out. This is the most walkable site from downtown but this has not been a stated desire to date.

Expansion at this site is constrained. Utilities are all in place. Access to Police, Fire and EMT are very good at this site.

Certain solutions for parking on the Gus Canty site will require structural parking (decks). Other outdoor activities are not available at this site. However proximity of the Community Center is an obvious benefit only this site has.

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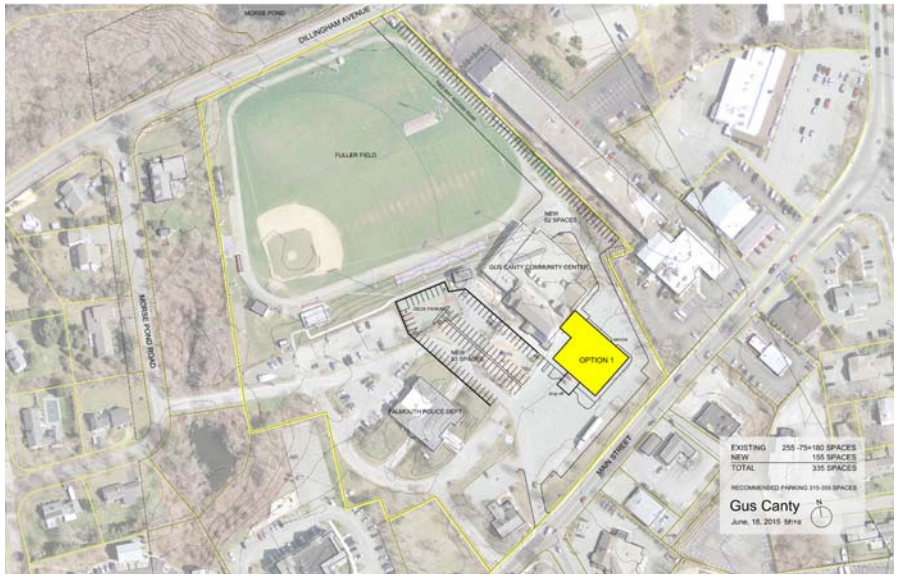
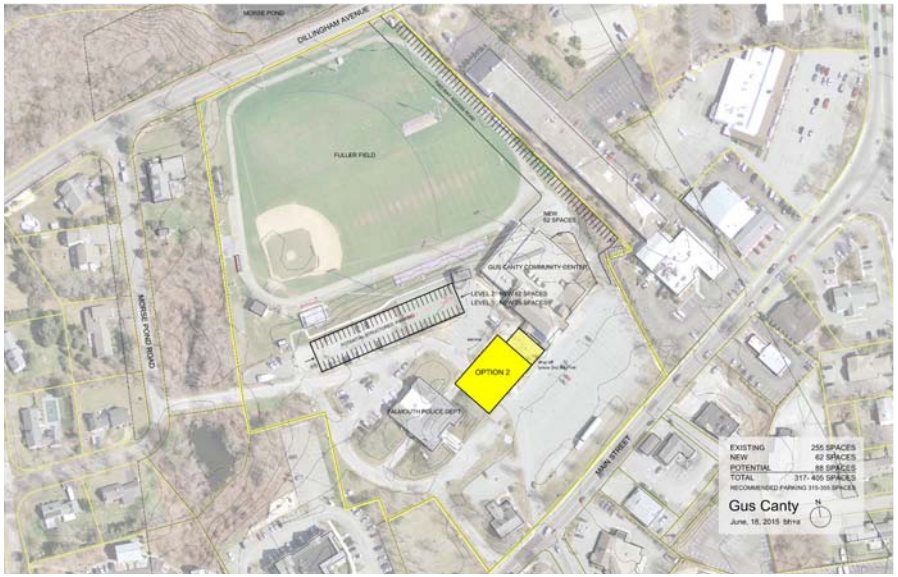
DILLINGHAM AVENUE
FULLER FIELD
GUS CANTY COMMUNITY CENTER
FALMOUTH POLICE DEPT
DAVIS STREET
Gus Canty

Site



Option 1

155 New Parking Spaces
180 Existing Parking Spaces
335 Total Parking Spaces



Option 2

62 New Parking Spaces
255 Existing Parking Spaces
88 Potential Parking Spaces
405 Total Parking Spaces

Site 4: High School

The High School land has 4 potential building sites. One fronts on Brick Kiln Road accessed via the road used for its construction. Two fronts on Gifford Road in the wooded area north of the farmstand. Three utilizes the girl's hockey field north of the tennis courts. Four is an undeveloped site accessed off of Old Campus Drive.

Sites 2 – 4 are accessed off Gifford Road which intersects Brick Kiln Road at a 4 way signalized intersection. Site 1 has similar difficult turning in or out issues from Brick Kiln Road.

All sites are buildable although site 4 has some topography to navigate. It will also require extensive clearing. Sites 1, 2 & 3 all displace an existing playing field which we assume will need to be replaced.

All sites have good access with convenient drop-off at the building from the right side of the car without crossing traffic lanes.

The High School site is in an Agriculture AA zone and the use is allowed. The site is 92.35 acres and sufficiently large. If a separate parcel were to be created for the senior center it needs to be a minimum of 4.02 acres given the allowable lot coverage of building and parking is 40%. We recommend a minimum site closer to 6 acres to allow for expansion.

The site is sufficiently large that all options would be 1 or 2 story buildings.

As sites 1 – 3 displace fields, they are readily constructible. Site 4 is on a relatively flat area contained within a hilly area at the north of the site. The presence of ??? pools needs to be verified in this area. Access to this site is off of Old Campus Drive, a relatively quiet residential street. Traffic does not however pass through a residential section to access the site.

Soil borings will be required but presence of the high school is a precedent that the soil does not present significant problems. Site 4 is undeveloped so hazardous soils are not anticipated.

Access to these sites is very good given the traffic light. Police, Fire and EMT access are reasonable. Parking is sufficient. Overflow parking for special events can be accommodated.

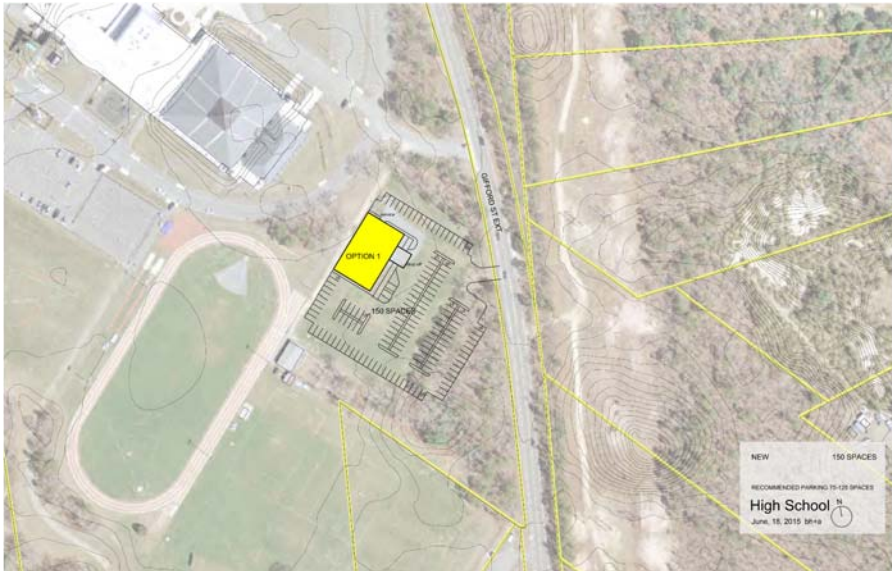
The site is serviced by sewer via the high school lift station. Other utilities are available. Each site has expansion capability. Impact on abutters is minimal. Impact on the high school, after the field displacement, is also considered minimal.

While geographically close to the center of Falmouth, this site is only accessed by car or van. Pedestrian access is not feasible.

Construction access parking and staging are good at this location. Optimal orientation for building configuration, climate and solar is feasible at each location.

High School locations obviously offer the best opportunities for intergenerational interaction if this is desired.


4
3
1
2



Option 1A

150 New Parking Spaces

Option 1B

150 New Parking Spaces

Option 2

150 New Parking Spaces

Option 3

150 New Parking Spaces

SITE DATA MATRIX

	Data Category	Brick Kiln	note	High School	note	Gus Canty	note	Teaticket	note
0	**Zoning & Dimensional Data**								
	District	Agriculture A		Agriculture AA		Public Use		Public Use	
	flood plain district	No		No		0.2% zone; 500 year flood plain	lower portion of site where ballfield is	No	
	aquifer protection district	No		No		No		No	
	municipal building an allowed use	Yes		Yes		Yes		Yes	
	deed restriction	access for K of C	adjacent land restricted						
	Dimensional Restrictions								
	actual lot area from GIS map	1.32	acres	92.35	acres	13.41	acres	6.68	acres
	actual square foot lot area from GIS map	57,499	sf	4,022,766	sf	584,140	sf	290,981	sf
	minimum lot area	45,000 sf		80,000 sf		45,000 sf		45,000 sf	
	minimum lot width	150 feet		200 feet		150 feet		150 feet	
	minimum lot frontage of road	100 feet		150 feet		100 feet		100 feet	
	front yard setback	25 feet		25 feet		25 feet		25 feet	
	rear yard setback	20 feet		20 feet		no requirement		no requirement	
	side yard setback	20 feet		20 feet		no requirement		no requirement	
	allowable lot coverage for structures	20%		20%		40%		40%	
	allowable buildable area in sf	11,500	sf	2,011,383	sf less existing	700,968	sf less existing	349,177	sf less existing
	proposed buildable footprint (coverage)	10,000	sf two story	10,000	sf two story	10,000	sf two story	10,000	sf two story
	footprint for expansion based on coverage	1,500	sf						
	allowable lot coverage structures and parking	40%		40%		70%		70%	
	allowable lot coverage in sf	23,000	sf						
	actual lot coverage for building & 150 cars	70,000	sf with 2 story building	70,000	sf with 2 story building	70,000	sf with 2 story building	70,000	sf with 2 story building
	actual lot coverage structures and parking	122%	exceeds available						
	min lot area req'd for building & parking in zone	175,000	sf	175,000	sf	100,000	sf	100,000	sf
	min lot area req'd for building & parking in zone	4.02	acres	4.02	acres	2.30	acres	2.30	acres
	max building height (stories)	2 1/2 stories		2 1/2 stories		no restriction	municipal uses in 240-30B are not subject to height restriction	no restriction	municipal uses in 240-30B are not subject to height restriction
	max building height (feet)	35 feet	to highest point	35 feet	to highest point	no restriction		no restriction	
	accessory buildings on site (stories)	1 1/2 stories		1 1/2 stories					
	accessory buildings on site (height)	18 feet	to highest point (25 feet allowed by special permit)	18 feet	to highest point (25 feet allowed by special permit)	25 feet	special permit req'd	25 feet	special permit req'd

	Data Category	Brick Kiln	note	High School	note	Gus Canty	note	Teaticket	note
	Parking Requirements								
	handicapped parking required								
	number of spaces required	1 per 200 sf for service use, 1 per 250 for leasable business use, 1 per 3 person capacity for place of assembly, all other uses as determined by Building Inspector							
	width of spaces	9' wide, 9'-4" curb length		9' wide, 9'-4" curb length		9' wide, 9'-4" curb length		9' wide, 9'-4" curb length	
	depth of spaces	18 feet		18 feet		18 feet		18 feet	
	aisle width	24 feet		24 feet		24 feet		24 feet	
	parking set back requirements: front yard	parking not allowed in front yard setback		parking not allowed in front yard setback		parking not allowed in front yard setback		parking not allowed in front yard setback	
	parking set back requirements: side & rear yard	5 feet	except by SP	5 feet	except by SP	5 feet	except by SP	5 feet	except by SP
	parking location	on site or within 300 feet of building entry		on site or within 300 feet of building entry		on site or within 300 feet of building entry		on site or within 300 feet of building entry	
	parking green space requirements	40 sf per parking stall w/in the paved area with a minimum area of 162 sf and a minimum width of 4 feet. 1 street tree per island minimum.							
	parking green space requirements	vegetated islands are required to separate rows of parking stalls and interior driveways.							
	off street loading requirement	1 @ 14 x 45 feet		1 @ 14 x 45 feet		1 @ 14 x 45 feet		1 @ 14 x 45 feet	
	off street loading screening	screen from street, parking & adjacent property by a row of trees at least 6 feet high, not more than 30% deciduous per approved list of buffer species or a 6 foot high solid fence or wall							
	bicycles spaces required	1 per 20 parking spaces		1 per 20 parking spaces		1 per 20 parking spaces		1 per 20 parking spaces	
1	**Natural Site Conditions**								
	Available Soil Report	no		no		no		no	
	Soil Conditions	typical Cape Cod soil conditions expected							
	Water Table	typical Cape Cod water table expected, not an issue for no basement							
	Topography	flat/developed		very hilly @ north		site drops on story front to back		buildable areas are relatively flat	
	Vegetation	developed		fields or woods		none		pines	
	Orientation, N-S-E-W	various options including optimal south		various options including optimal south		various options including optimal south		various options including optimal south	
2	**Environmental Issues: Conservation**								
	Flood Considerations	no		no		500 year zone	at ballfield level only	no	
	Wetlands	no		behind HS		on adjacent parcel		no	
	River or "Water Body" Setbacks	no				on adjacent parcel		no	
	Vernal Pools	no		to be verified		no		no	
3	**Environmental HAZMAT**								
	Sub-Surface Soil Contamination					tbd		tbd	
	Building Asbestos	tbd		na		tbd		tbd	
	Building Lead Paint	tbd		na		tbd		tbd	
4	**Permitting**								

	Data Category	Brick Kiln	note	High School	note	Gus Canty	note	Teaticket	note
	Town Meeting Vote for Zoning Change	no		no		no		no	
	Environmental Impact Statement	no		no		no		no	
	Planning Board Required	yes		yes		yes		yes	
	Conservation Commission Required	no		maybe		yes		no	
	Permitting Surcharge in soft cost	no		yes		yes		no	
5	**Site Access**								
	Major street access is from	Brick Kiln Rd		Brick Kiln, Gifford or Campus		Main St. and Dillingham Ave		Teaticket Hwy & Sandwich Rd	
	Access to Parking	not sufficient							
	Entry and Exit from Site	from Brick Kiln Rd		from Brick Kiln Rd and Gifford St Ext.		from Main St. and Dillingham Ave		from Teaticket Hwy & Sandwich Rd	
	Off-Street Loading & Service provision	yes		yes		yes		yes	
	Construction Vehicle Access	yes		yes		traffic issues		traffic issues	
	Contractor Parking	no		yes		on field		on field	
	Walkable Pedestrian Access	no		no		yes		yes	
	Bicycle Access	major road		major road		yes		yes	
	Bus/Van Drop Off	yes		yes		yes		yes	
	Public Transportation	no		no		yes		yes	
	Auxiliary transportation required	yes		yes		yes		yes	
6	**Emergency Vehicle Access**								
	Police Department response time	8 minutes		9 minutes		on site		6 minute	
	Fire Department response time	7 minutes		7 minutes		2 minutes		7 minutes	
	Fire Department Access requirements	number of building sides							
7	**Parking**								
	projected/ required <u>total</u> parking for site	150		150		150		150	
	existing parking available at site	66		150		150	not counting police	48	
	new on-grade parking available & feasible	no		yes		partial		yes	
	Structured Parking Required	no		no		yes		no	
	handicapped parking provided	yes		yes		yes		yes	
	Expansion capability	no		possibly		no		yes	
	Shared uses, Alternate parking sources	yes		yes		yes		yes	if SA stays
8	**Utility Connections**								
	Storm Drainage								
	Gas	yes		yes		yes		yes	

	Data Category	Brick Kiln	note	High School	note	Gus Canty	note	Teaticket	note
	Water	yes		yes		yes		yes	
	Sewer	no		lift to sewer		yes		coming near site	
	Electric, Telephone, Data & Cable	yes		yes		yes		yes	
9	**Capacity for Expansion**								
	area available for expansion	no		yes		no		yes	
	impact of expansion on traffic	minimal		afternoons		high		high	
	impact of expansion on parking	none available		additional parking available		no additional parking		minimal available	
	impact on system requirements	no		sewer lift		no		no	
10	**Abutting Properties**								
	Impact on Abutters	need to acquire		minimal		minimal		medium	
11	**Adjacencies/Neighbors**								
	Neighborhood Context								
	List Adjacent Uses	residential & conservation		high school uses		police, playing fields		residential	
	Conflicting Adjacent Uses			school not accessible during day				school administration to remain	
12	**Impact on Existing Use**								
	Impact of SC on existing use	no		yes, HS use		yes, Community Center		yes, School Administration	
13	**Impact on Existing Buildings**								
14	**Possibility for Shared Use**								
15	**Location**								
	Proximity to Town Center / Downtown	remote		remote		downtown		near downtown	
	Proximity to outdoor rec spaces	adjacent		adjacent pending use restrictions		adjacent		taken by building	
	Unique characteristics of location	none		none		downtown		historic building, town green	
	Travel distances	center or Falmouth		center or Falmouth					
16	**View Corridors**								
	impact on view corridors	NA		NA		NA		NA	
17	**Constructability**								

	Data Category	Brick Kiln	note	High School	note	Gus Canty	note	Teaticket	note
	construction staging	tight site		good		use lower site		site available	
	construction vehicle access	good		good		difficult		fair	
	disruption of adjacent uses	yes		some fields		community center		school administration	
	note observed construction cost surcharge	none		yes, field replacement		structural parking		yes, renovation and field replacement	
18	**Single Level or Multi Level**								
		multi		either		multi		either	
19	**Other Outdoor Activities**								
		adjacent site		yes		community center		no	
20	**Intergenerational Activities**								
	Teen Volunteers	yes		yes		yes		yes	
	Rec Department	yes		yes		yes		yes	
21	**Operational Considerations**								
22	**Sustainability**								
	Reduction in automobile use	no		no		yes		maybe	
	feasibility of solar	yes		yes		yes		yes	
	Adaptive reuse							maybe	
	LEED certification feasible	yes		yes		yes		yes	

RANKING OF FACTORS

Factors all have equal weight

	Factor	Brick Kiln	Gus Canty	High School	Teaticket Site	Description
1	Site Area	4	3	1	2	site is sufficient for builidng and expansion
2	One Story Option	3	4	1	2	is the site large enough for a one story builidng
3	Location (proximity)	1	3	1	3	evaluates location within greater Falmouth
4	Access by other than car	3	1	3	2	pedestrian, bike, public transit
5	Visibility of building	3	1	4	1	is building visible from public way
6	Timing	4	2	1	2	are other factors impeding ability to proceed
7	Traffic	1	4	2	3	ranks traffic surrounding site
8	Traffic Access & Egress	2	4	1	3	entry and extt into the site from road
9	Parking	4	1	2	3	amount of parking
10	Proximity of Parking	1	4	1	1	location of parking relative to builidng
11	Overflow Parking	4	1	2	3	ability to handle special events
12	Requires Land Purchase	4	1	1	1	does Town own the land
13	Deed Restriction	4	1	1	1	is use of the property in some way restricted
14	Sewer	4	1	3	2	sewer connection at site
15	Typography	1	4	2	2	grade change for builidng or parking lot
16	Soils		neutral			soil suitable for typical foundations
17	Water Table		neutral			abnormal water table considerations impact constructability
18	Environmental		neutral			environmental considerations that may prevent development
	Wetland		near by			
	Flood Plain		near by			
	Vernal Pool		none			none found at any site
	Habitat restrictions		none			none found at any site
	Hazardous Materials		neutral			study hazmat in existing buildings in phase 2
19	Site Construction Cost	4	3	2	1	does the site impact the construction cost
	Building Demoliton	x				
	Septic System	x				
20	Collateral Costs	4	3	2	1	are there other expenses required to make this site viable
	Field Replacement			x	x	replace fields at high school and school admin sites
	Replace Basketball Court		x			replace basketball court at Gus Canty
	Relocate Playground		x			replace playground at Gus Canty
	Relocate School Admin				x	relocate school administration for reuse option
21	Collateral Benefits	3	1	4	2	does development on the site spur create other benefits
22	Multi-Generational	4	1	2	3	ability to interact with other age groups
23	Other Outdoor Activities	1	2	4	3	is the site near other outdoor activities (present or future)
24	Other Indoor Activities	4	1	3	2	is the site near or connected to other indoor activities
Total Score		**63**	**46**	**43**	**43**	

Passing Scores	Brick Kiln	Gus Canty	High School	Teaticket Site
Number of 1's	**5**	**10**	**8**	**6**
Number of 2's	**1**	**2**	**7**	**8**
	6	**12**	**15**	**14**

Failing Scores	Brick Kiln	Gus Canty	High School	Teaticket Site
Number of 3's	**4**	**4**	**3**	**7**
Number of 4's	**11**	**5**	**3**	**0**
	15	**9**	**6**	**7**

CIVIL ENGINEER'S PRELIMINARY REPORT

Following is a summary of our findings regarding the four sites under consideration for the new Falmouth Senior Center. Our findings are based on a visit to each site, discussions with wastewater department and health department personnel, review of the USDA Soil Conservation Service "Soil Survey of Barnstable County, Massachusetts" issued March 1993, review of current FEMA Flood Insurance Rate Maps (FIRMs) effective July 16, 2014, review of the Massachusetts Natural Heritage Atlas, 13th Edition, issued October 1, 2008, relative to Natural Heritage and Endangered Species Program (NHESP) Priority Habitats of Rare Species and Estimated Habitats of Rare Wildlife, review of MassGIS maps relative to wetlands and certified and potential vernal pools, review of the Falmouth Zoning Bylaws relative to driveway/curb cut locations and sight distance, and review of Massachusetts and Falmouth wetlands regulations.

Site 1 Teaticket School Administration

- No NHESP Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife are mapped on the property
- No certified or potential vernal pools are mapped on the property
- No Special Flood Hazard Areas as shown on the current FEMA FIRMs are mapped on the property
- No wetlands are mapped on the property and no apparent wetlands were observed during our site visit
- Town water exists in Sandwich Road and in Route 28 - 8" mains in both roads
- Gas service exists to the existing building
- Overhead electric, telephone, and cable utilities of apparent sizeable capacity exist on the locus side of Sandwich Road and Route 28
- No municipal sewer connection exists for the property. Plans at the wastewater department show that a proposed municipal sewer extension in Route 28 will terminate at the intersection of Sandwich Road and Route 28. According to the Falmouth Wastewater Department, the sewer extension project should be completed in 2016. I have inquired if a connection from the school administration building property into the new sewer would be possible, and am anticipating an answer from the Falmouth Sewer Department early next week.
- According to the SCS Soil Survey and assistant health agent, the soils in the area are sandy.
- Sight distance appears to be adequate in both directions on both streets, but will need to be verified and evaluated when proposed curb cut locations are planned.

Site 2 Brick Kiln Road

- No NHESP Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife are mapped on the property
- No certified or potential vernal pools are mapped on the property
- No Special Flood Hazard Areas as shown on the current FEMA FIRMs are mapped on the property
- No wetlands are mapped on the property and no apparent wetlands were observed during our site visit
- Town water exists in Brick Kiln Road along the property frontage
- Gas service exists to the existing building
- Overhead electric, telephone, and cable utilities of apparent sizeable capacity exist on the southerly side of Brick Kiln Road.
- No municipal sewer connection exists or is available for the property, so an onsite sewage disposal system would be required. According to the SCS Soil Survey and assistant health agent, the soils in the area are sandy.
- Sight distance appears adequate, but will need to be verified and evaluated when proposed curb cut locations are planned.

Site 3 Gus Canty Community Center

- No NHESP Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife are mapped on the property
- No certified or potential vernal pools are mapped on the property
- The northerly portion of the site and the majority Dillingham Avenue between the site and Morse Pond lie within a Special Flood Hazard Area,

Zone AE (EL 10), as shown on FEMA FIRM map #25001C0736J dated July 16, 2014. Extending southerly from the Zone AE (EL 10) is an area of 0.02% chance flooding which encompasses the remainder of the baseball field and northeast corner of the Gus Canty building. Another Special Flood Hazard Area, Zone AE (EL 13) lies just easterly of the existing parking lot serving the Gus Canty building.

- The land within the AE Zones is "land subject to coastal storm flowage" as defined in the Massachusetts Wetland Regulations, 310 CMR 10.00, and as such, are wetlands subject to protection under the Massachusetts Wetland Protection Act (WPA), M.G.L. Chapter 131 Section 40, and Chapter 235 of the Town Code. The land within 100 feet of the "land subject to coastal storm flowage" is also subject to regulation under Chapter 235 of the Town Code as wetland buffer zone. Additionally, the land within 100' of the inland bank of Morse Pond and the bordering vegetated wetlands around the pond are buffer zones subject to protection under the WPA and Regulations, and Chapter 235 of the Town Code. The is another freshwater wetland with associated buffer zone on abutting property to the west of home plate and the press box.
- Town water exists on Main Street - 8" and 12" mains. There is no water main in Dillingham Avenue along the locus frontage.
- Gas service exists to the existing building.
- Overhead electric, telephone, and cable utilities of apparent sizeable capacity exist on the locus side of Main Street.
- Municipal sewer exists in Main Street, and the Gus Canty building is connected. We understand a sewer connection for the new senior center would be available.
- According to the SCS Soil Survey and assistant health agent, the soils in the area are sandy.
- Sight distance appears to be adequate in both directions on Dillingham Avenue, but will need to be verified and evaluated when proposed curb cut locations are planned. The existing curb cut on Main Street that serves the Gus Canty building and Falmouth Police Station would need to be evaluated for its adequacy to handle additional vehicle trips from the senior center.

Site 4 High School

- No NHESP Priority Habitats of Rare Species or Estimated Habitats of Rare Wildlife are mapped on the property
- No certified or potential vernal pools are mapped on the property.
- No Special Flood Hazard Areas as shown on the current FEMA FIRMs are mapped on the property.
- No wetlands are mapped on the property and no apparent wetlands were observed during our site visit.
- Town water mains exist in Brick Kiln Road and Gifford Street Extension along the property frontage.
- Gas service exists to the high school.
- Overhead electric, telephone, and cable utilities of apparent sizeable capacity exist on Brick Kiln Road, the southerly end of Gifford Street Extension, and on Gifford Street Extension approximately 200'north of Old Campus Drive. Minimal overhead electric was observed in Gifford Street Extension between the high school and Campus Drive.
- A sewer force main connection exists between the high school and the municipal wastewater treatment plant. I have inquired if a connection from the new senior center into the existing lift station and sewer force main would be possible, and am anticipating an answer from the Falmouth Wastewater Department early next week. If a connection is possible, an engineering evaluation would need to be made to determine if any modifications to the lift station or sewer force main would be necessary.
- According to the SCS Soil Survey and assistant health agent, the soils in the area are sandy.
- Sight distance appears adequate, but will need to be verified and evaluated when proposed curb cut locations are planned.

TRAFFIC ENGINEER'S PRELIMINARY REPORT

Pare Corporation (PARE) has completed the requested preliminary traffic engineering assessment of the proposed Falmouth Senior Center. The proposed Senior Center is expected to be 20,000 square feet with an adjacent parking lot. Several site locations within the Town of Falmouth are currently under consideration for construction of the new Senior Center. Multiple alternatives at each location are also under consideration. The four sites under consideration include Falmouth High School, the Gus Canty Community Center, the Falmouth School Administration Building, and on the north side of Brick Kiln Road between Trotting Park Road and Sandwich Road. The locations and options are attached.

Site 1 Teaticket School Administration

Three options are under consideration at the existing School Administration Building. Each of the options includes the construction of the Senior Center parking lot on the existing baseball field and construction of new driveways on Teaticket Highway and Sandwich Road. Teaticket Highway (Route 28) is a principal arterial with a posted speed limit of 40 miles per hour. Teaticket Highway consists of one 11-foot wide travel lane in the eastbound direction with a 1-foot wide shoulder and one 12-foot wide travel lane in the westbound direction with a 1-foot wide shoulder. Sidewalks are located on both side of the roadway and are separated from the roadway by grass buffers. Sandwich Road is a principal arterial with a posted speed limit of 35 miles per hour. Sandwich Road consists of a 12-foot wide travel lane with a 2-foot wide shoulder in both the northbound and southbound directions. A 5-foot wide sidewalk is located along the east side of the roadway.

Site 2 Brick Kiln Road

Three options are under consideration along the north side of Brick Kiln Road between Trotting Park Road and Sandwich Road. One option is located at the Children's Community Building, 279 Brick Kiln Road, and the other two are located at the existing Falmouth Dog Park. Brick Kiln Road is a minor arterial with a posted speed limit of 35 miles per hour. In the vicinity of the potential site, Brick Kiln consists of one 12-foot wide travel lane in the eastbound direction with a 2-foot wideshoulder and a one 13-foot wide travel lane in the westbound direction with a 2-foot wide shoulder. A 5-foot wide sidewalk is located on the north side of the roadway only.

Site 3 Gus Canty Community Center

Four options are under consideration at the existing Gus Canty Community Center. It is important to note that in addition to the Community Center, the site is shared by the Falmouth Police Station and Fuller Field, an athletic field complex. Although each of the four options place the proposed Senior Center building at different locations on the site, they utilize the same two driveways. The existing driveway that currently serves the Community Center on Main Street would be used by the Senior Center, as well as a new driveway on Dillingham Avenue adjacent to the Fuller Field access driveway. Main Street is a principal arterial with a posted speed limit of 35 miles per hour. Main Street consists of one 14-foot wide travel lane in each direction with 6-foot wide sidewalks on both sides. The sidewalk on the north side of Main Street is separated from the roadway by a 3-foot wide grass buffer. Dillingham Avenue is a local roadway with no posted speed limit. Dillingham Avenue consists of a 12-foot wide travel lane with a 2-foot wide shoulder in the westbound direction and a 12.5-foot wide travel lane with 2-foot wide shoulder in the eastbound direction. A bituminous sidewalk is located on the south side of the roadway and is separated from the roadway by a grass buffer.

Site 4 High School

Four locations at the existing Falmouth High School are under consideration for locating the Senior Center; a wooden area off Old Campus Drive north of the High School, the existing soccer field located north of the High School on Gifford Street Extension, the softball field located adjacent to the High School on Gifford Street Extension, and the soccer field located south of the High School off Brick Kiln Road. Brick Kiln Road is a minor arterial with a posted speed limit of 35 miles per hour. In the vicinity of the potential site, Brick Kiln Road has one 12.5-foot wide lane in each direction with 1.5-foot wide shoulders. Gifford Street Extension is a minor arterial with 25 mph school zone speed limit posted. Gifford Street Extension is composed of one 12-foot wide travel lane in each direction with 1.5-foot wide shoulders and a 5.5-foot wide sidewalk on the western side of the roadway. Old Campus Drive is a local roadway with no posted speed limit or striping. It has a 22-foot total pavement width (including berm on both sides) with

a 4.5-foot wide bituminous sidewalk on the northern side of the roadway. The sidewalk is separated from the roadway by a 2.5-foot wide grass strip. A traffic signal is located at the intersection of Brick Kiln Road and Gifford Street Extension.

Parking

Parking generation is typically estimated for particular land uses by utilizing rates provided in the Institute of Transportation Engineers Parking Generation manual. Parking rates for senior centers, however, are not included in the Manual. Other methods for determining parking needs have therefore been investigated.

PARE previously provided engineering services for the Town of Lincoln, RI Senior Center. The Lincoln Senior Center, which is 11,000 sf, currently has approximately 75 parking spaces. Based on recent conversations with representatives from the Lincoln Senior Center, parking demands exceed the existing lot about once a week and are currently in the process of expanding their parking lot to add 50 additional parking spaces. The Lincoln Senior Center is in a rural location without opportunities for walking trips to transit access.

As provided by BH+A, the Massachusetts Executive Office of Elder Affairs recommends the provision of one parking space for every 80 square feet to 200 square feet of gross floor area. Where the facility lies is rural or remote location without transit alternatives or nearby residential areas conducive for walking trips, the higher parking rate is required. Where the facility lies within a central location to the community with many nearby senior residences and access to transit, fewer parking spaces are required.

BH+A has also provided a summary of senior center parking facilities in various comparable Massachusetts communities. This summary indicated a parking rate ranging from one parking space for every 100 square feet to 346 square feet of gross floor area.

Based on our review of the potential site locations and parking needs of similarly sized senior centers of comparable size, we anticipate the parking needs for the Falmouth Senior Center to be dependent on the location of the site. The more rural and remote location of the Falmouth High School and Brick Kiln Road sites will likely require more parking as alternative modes of transportation, such as walking, biking and transit, are less available. The Gus Canty Community Center and School Administration Building sites would likely require less parking as they are located within more densely populated residential areas with opportunities for participants to walk to the Senior Center. Additionally, the Cape Cod Regional Transit Authority SeaLine Hyannis-Woods Hole bus route and WHOOSH Trolley route operate along Route 28 in the area of the two sites.

Several of the potential site locations share or abut parking facilities of neighboring Town facilities. During large events or special programs where large attendance is expected, the neighboring facility parking lots could be utilized by the Senior Center, alleviating some of the parking needs.

It should be noted that the existing Falmouth Senior Center has approximately 40 parking spaces. The table provided on the following page summarizes several parking requirement impacts and the estimated parking needs of each potential site location.

Trip Generation

Similar to parking generation, trip generation for particular land uses are typically calculated using rates provided in the Institute of Transportation Engineers Trip Generation Manual. Trip generation rates for senior centers, however, have yet to be established.

Through our observation and experience, trip generation rates for senior centers are relatively low when compared to other types of land uses. The time of day trips enter and exit the site tend to be correlated with the program schedule of the particular day and are typically spread throughout the operating hours of the center. The senior center may generate a larger amount of traffic for a special event, however, this typically occurs outside of the peak commuting hours and has minor impact on the adjacent roadway network.

According to its website, the existing Falmouth Senior Center has operating hours from 8:00 a.m. to 4:00 p.m. Monday – Friday with programs typically running between 9:00 a.m. 2:00 p.m. We expect that traffic patterns at the proposed facility will operate similarly to the existing Falmouth Senior Center and other senior centers in the region. Traffic to and from the site will be spread throughout the day with the majority of traffic occurring outside of the a.m. peak hour (typically between 7:00 – 9:00 a.m.) and p.m. peak hour (typically between 4:00 and 6:00 p.m.).

Potential Location	Nearby Residential Areas	Access to Transit	Nearby Over-flow Parking	Estimated Parking Needs
Falmouth High School	No nearby densely populated residential areas.	None.	High School parking lots provide substantial overflow parking options for all sites excluding the Old Campus Drive Location.	75 to 125 spaces Old Campus Drive – 150 to 200 spaces
Gus Canty Community Center	Yes. Residential neighbors within 1 mile to the south and east.	Direct Access to WHOOSH. SeaLine access at Falmouth Mall (approx. ¾ mile walk)	Gus Canty Community Center parking lot adjacent to potential building location can serve as a combined/overflow parking area.	60 to 100 spaces
School Administration Building	Yes. Residential neighborhoods are located	Access to WHOOSH and SeaLine at Falmouth Mall (approx. ¾ mile)	School Administration Parking Lot can serve overflow parking.	100 to 125 spaces
Brick Kiln Road	No nearby densely populated residential areas.	None.	Falmouth Dog Park could serve overflow parking (approx. 25 spaces)	150 to 175 spaces

Site Access & Traffic Circulation

Site 1 Teaticket Administration

Site access and traffic circulation observations made at the Falmouth School Administration Building are as follows:

- Observations were made around 11:30 a.m. on Wednesday, June 10, 2015.
- Traffic volumes on Teaticket Highway appeared to be relatively high and could prove to make exiting the site at this location difficult at times, particularly during peak traffic periods.
- Several trees lining the north side of Teaticket Highway would require removal for installation of the site driveway and to avoid sight distance conflicts.
- Traffic volumes on Sandwich Road appeared to be lower than Teaticket Highway.
- With proper tree removal and brush trimming, sight distances at both potential driveway locations can meet or exceed AASHTO Standards.
- The location of this potential site in a thickly settled area with close proximity to residential neighborhoods could promote more walking trips, reducing vehicle trips and the number of required parking spaces. Sidewalks are located on both sides of Teaticket Highway and on the east side of Sandwich Road near the site. A crosswalk across Teaticket Highway is also located at the existing School Administration Building.

Site 2 Brick Kiln Road

Site access and traffic circulation observations made along the potential Brick Kiln Road sites are as follows:

- Observations were made around 11:00 a.m. on Wednesday, June 10, 2015.
- Sight distances at the proposed driveways along Brick Kiln Road either meet or exceed AASHTO requirements under existing conditions or with minor tree and/or brush trimming.
- 3-4 vehicles were observed in the dog park parking lot.
- No vehicles were observed in the children's community building parking lot.
- Traffic volumes on Brick Kiln Road did not appear to be heavy, although traffic was not observed during a peak traffic period.

Site 3 Gus Canty Community Center

Several site access and traffic circulation observations were made at the Gus Canty Community Center.

- Observations were made around noon on Wednesday, June 10, 2015.
- The existing site circulation prevents vehicles from accessing the Falmouth Police Station parking lot and driveway from the Community Center parking lot.
- The movement out of the Community Center driveway onto Main Street appeared to be difficult as traffic volumes on Main Street were heavy. The difficulty of the movement out of the Main Street driveway was increased by the frequent conflicting turning movements from Scranton Avenue, directly across Main Street from the Community Center driveway. Several vehicles turning left onto Main Street were observed making the move in two stages, pulling out when traffic is clear in one direction, then completing the movement when traffic is clear in the opposite direction. This may be particularly difficult for senior drivers.
- A children's event was occurring at Fuller Field and parked vehicles lined the south side of Dillingham Road. Vehicles were parked over the curb encroaching on the sidewalk and grass strip between the sidewalk and curb.
- Sight distance at both potential driveways appeared to meet or exceed AASHTO Standards.
- The location of this potential site on Main Street within Falmouth Village may produce more walking trips and reduce the number of vehicles expected to visit the site. Sidewalks are located on both sides of Main Street and along the south side of Dillingham Avenue near the potential site driveways. A crosswalk is currently located across Main Street at the Community Center Driveway.

Site 4 High School

Several site access and traffic circulation observations were made at and around the Falmouth High School.

- Observations were made around 10:00 a.m. on Wednesday, June 10, 2015.
- Traffic volumes on Brick Kiln Road and Gifford Street Extension appeared relatively low, although
- this was expected for the off-peak traffic observations.
- Sight distances at the potential driveways along Brick Kiln Road and Gifford Street Extension appeared to either meet or exceed AASHTO requirements under existing conditions or with minor tree and/or brush trimming.

- Old Campus Drive is a curvy and hilly roadway with limited sight distance between the potential senior center driveway and Gifford Street Extension.
- A large number of trucks were observed on Gifford Street Extension, likely traveling to/from the technology/industrial park off Thomas B Landers Road.
- Little traffic was observed entering or exiting the High School.
- Parking lots at the High School appeared to be well below capacity. This may be due to the senior class having already graduated.
- Although the High School is adjacent to each of these locations, the majority of trips to and from the senior center are not expected to overlap with the majority of High School related trips. The senior center would likely open after school has begun. Some trips may overlap during the p.m. school dismissal trips, however, this is not expected to be significant.

Conclusion

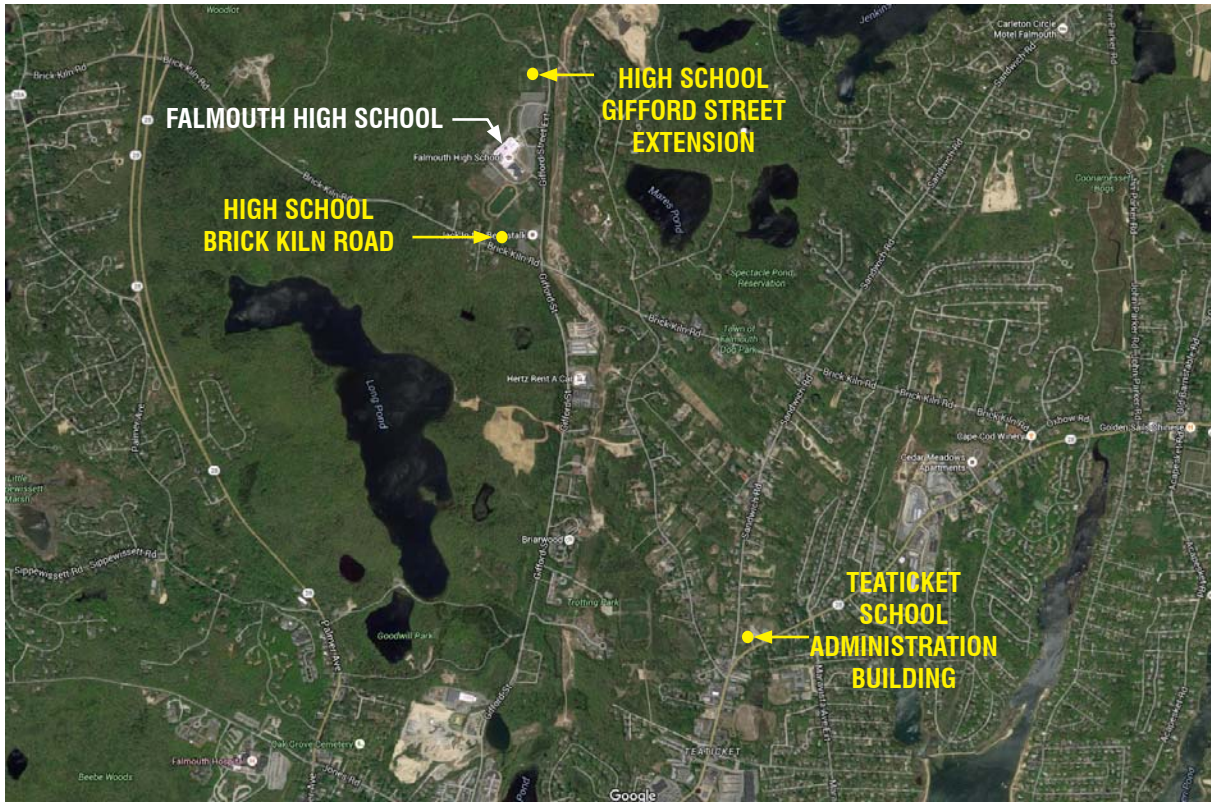
Upon completion of the preliminary traffic study of the areas surrounding the potential locations of the Falmouth Senior Center, several conclusions can be made.

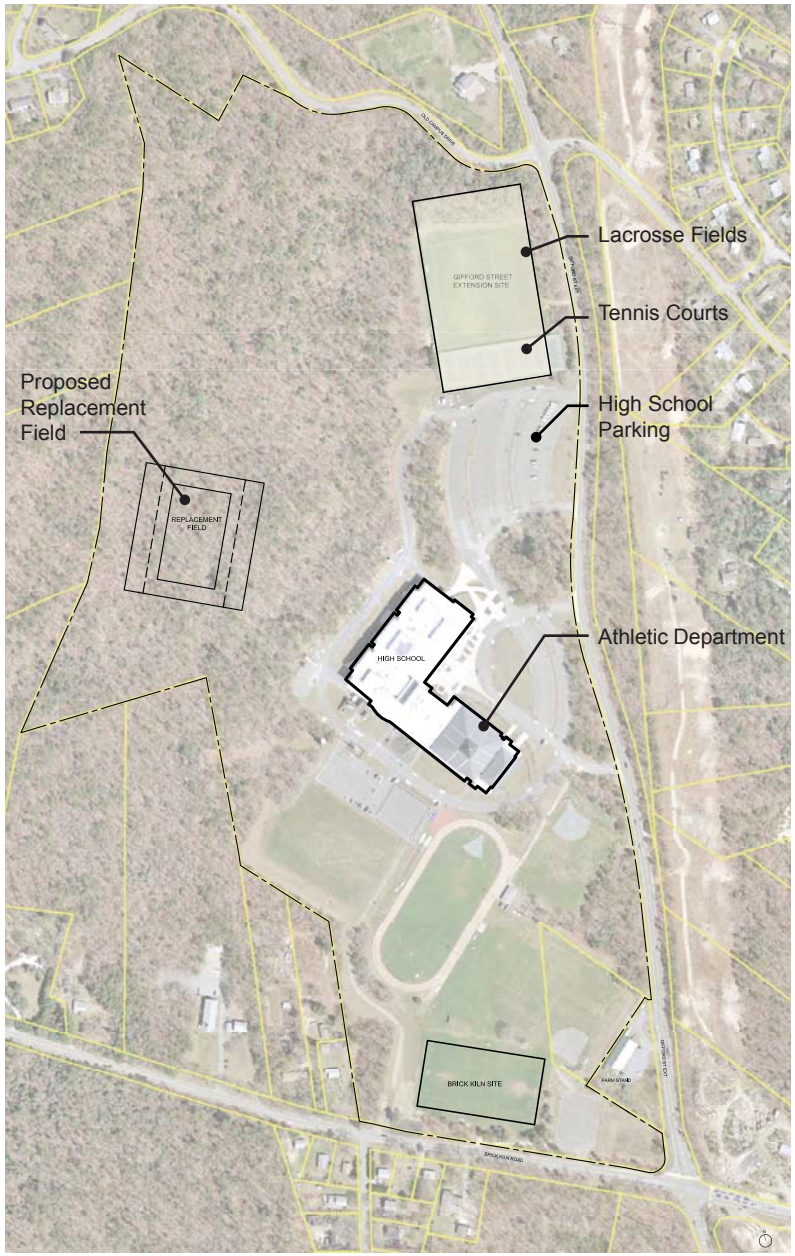
- The parking space requirements of the site will be dependent on three key factors: (1) availability of neighboring parking lot(s) for overflow use during large events or programs, (2) location of the site in relation to residential areas that would encourage walking to the senior, and (3) location of the site in relation to transit routes.
- Based on field observations, two potential driveways may be difficult for drivers to exit due to heavy traffic volumes. This may be particularly difficult for senior drivers. These two driveway locations include the existing Community Center driveway on Main Street and the potential School Administration site driveway on Teaticket Highway. An in-depth analysis of the safety and operations at these locations is recommended should either of these sites be selected.
- The potential driveway for the High School site on Old Campus Drive may be difficult for senior drivers to maneuver with the narrow roadway width of Old Campus Drive and its vertical and horizontal curvature.
- The Senior Center is expected to generate a relatively low number of trips compared to other land uses. Trips to and from senior centers typically occur midday, outside of the peak traffic periods and have minimal impact on adjacent roadway network.

SECTION 3
PHASE 2 FOCUS SITES

PHASE 2

The town of Falmouth requested that three sites be studied further in the second phase. Two sites at the high school and the Teaticket School Administration site.





Gifford Street Extension Site

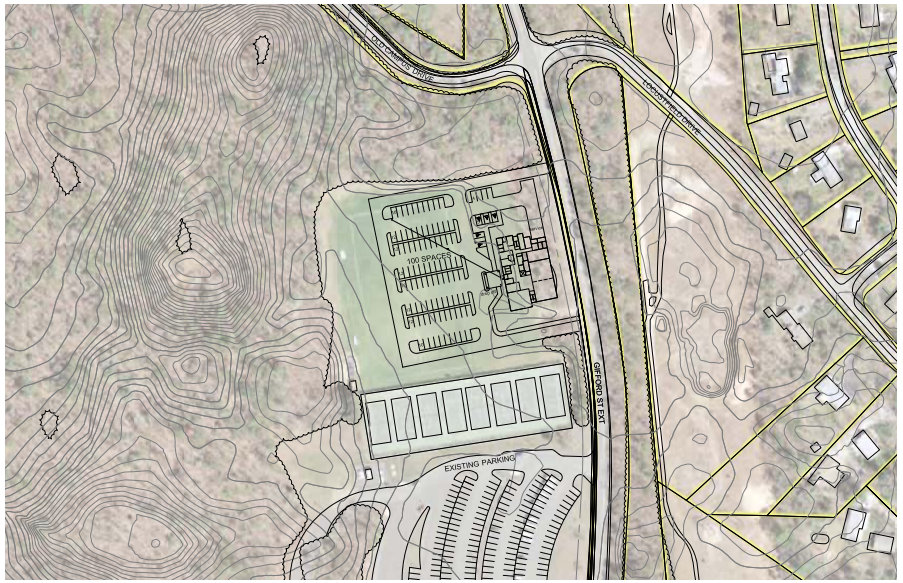
The lacrosse fields off of Gifford Street Extension was one of the sites that was further studied for the Senior Center. Currently Falmouth High School has a dual natural turf field to allow alternating use from season to season. If this site is chosen for the senior center the fields will need to be replaced. There are two options to replacing the field. One is to have two natural turf fields the other more costly option would be a synthetic field. A natural turf sports field requires one year for grass to take before it can be played on and the high school cannot skip a season without the field. Although synthetic fields are more expensive only one field would be required and construction for the senior center would not have to wait a year for the grass to grow making the synthetic field a more viable option. As part of this phase the Architect and Civil Engineer walked the high school grounds with the Athletic Director to get an understanding of the needs of the school. During the site visit it was determined an area behind the school was relatively flat and would be the best space for the relocated field.

Also, as a part of this study we looked at placing the senior center on the Tennis Courts and having a shared parking lot with the high school to save money on construction of a new parking lot. However, it was determined mixing senior drivers with high school drivers was not an appropriate combination and both were likely to have high traffic in the mid afternoon when school let out.

This site has the most remote feel of the three sites and would mostly be surrounded by the existing wooded area.

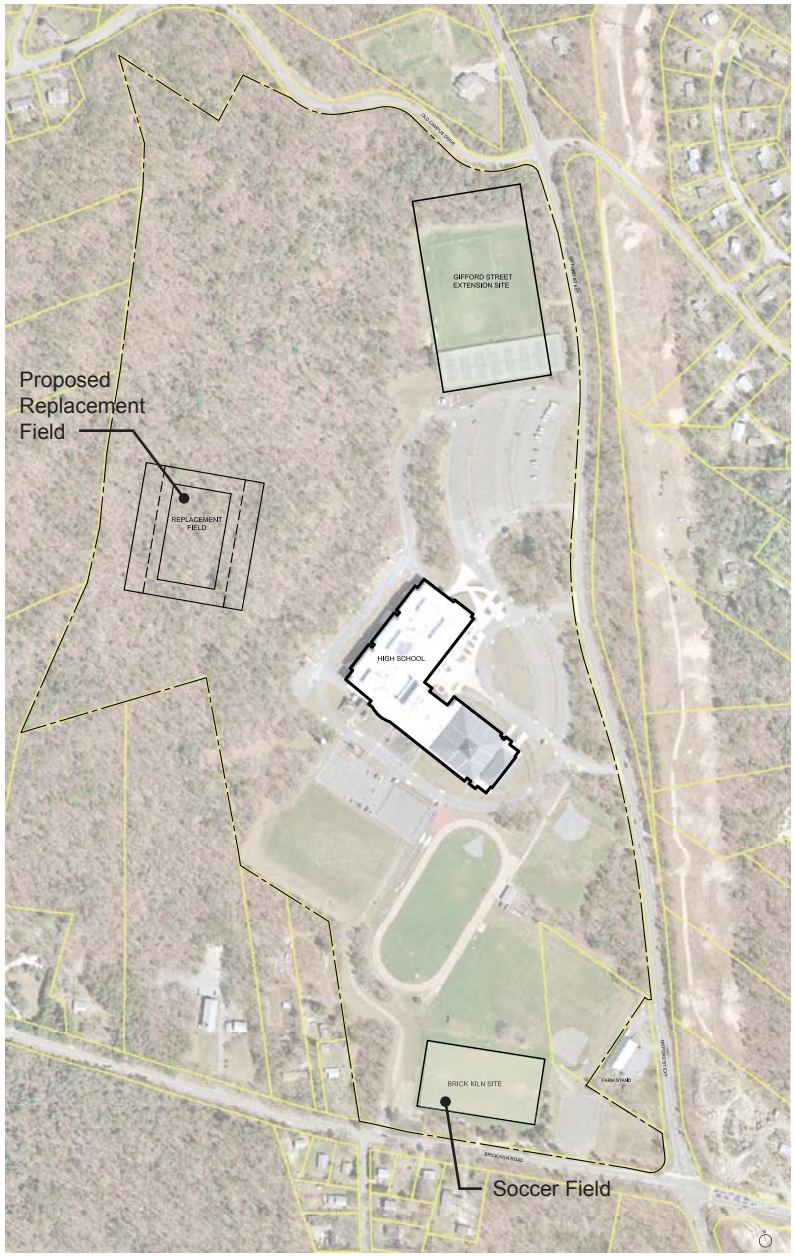
Another thing to note is that the school facilities would not be available to the seniors during the school day.

Option 1



Option 2

Aerial of Option 1



Brick Kiln Road

The second site at Falmouth High School is to the south of the school off of Brick Kiln road on an existing soccer field. Again the existing filed is needed by Falmouth High School so a replacement field would be required as part of the project. The area behind the school that worked well for the lacrosse field would also work for a new soccer field.

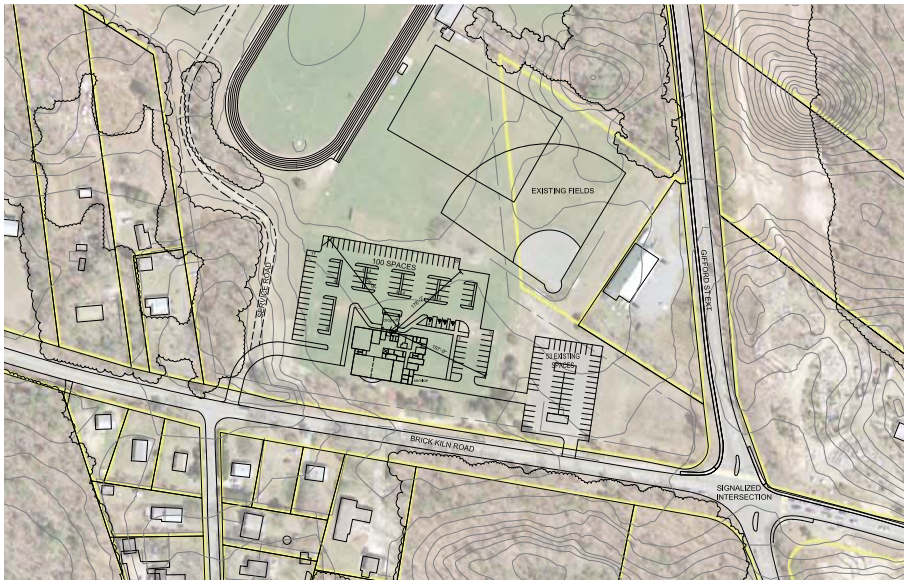
An advantage to this site is an existing small parking lot for about 50 cars which would work well as an overflow lot during large events. This site feels less remote as it is surrounded by playing fields and on one side a market/farm stand.

This study looked at locating the building at 3 different locations on the site. See the plans on the following page.

Option 1

Option 2

Aerial of Option 1



Option 3

Teaticket School Administration

The last site studied was the former Teaticket School that currently houses the School Administration. Multiple schemes were studied including adaptive reuse of the existing building, co-mingling the school administration and the senior center and an entirely new building.

Although the building may seem to have extra space because of the wide corridor and stairs needed in its previous life, the school administration uses most of it. Narrowing the corridor to gain program space would require major restructuring and therefore be unaffordable. The unused area could house a program room for the senior center but getting access to it would be difficult as the building levels would not align. See the section on the opposite page.

Another scheme that was studied was putting the senior center in the school administration building. This would still require an addition of at least 8,500 square feet. Again, the addition's floor levels would most likely not align with the existing floors which is not ideal for a senior center which needs easy access for it's users.

Any scheme on this site would take over the existing town baseball field most likely for parking. The town would have to relocate the field to somewhere else in Falmouth.

Renovations to the school administration option include site improvements including the parking lot.

School Administration Building Size

Gross building Area*	14,300 SF
Usable Building Area**	8,900 SF
School Administration Area	8,200 SF
Unused Area	700 SF

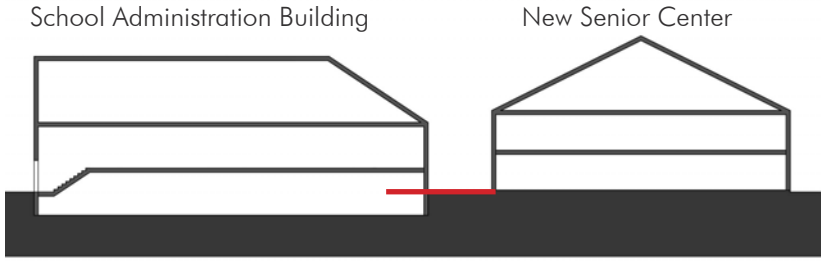
* Gross Area includes exterior walls

** Usable Area excludes exterior walls, existing stairs and corridors which cannot be rented.

School Administration

School administration staff will need to be retained at this site either in the existing or a new building. The program is as follows:

Position/Department/Staff	Space Required
Receptionist/Front Desk/Food Service	Reception Desk with required technology
Superintendent	Private office Conference/PD room
Administrative Assistant	Reception area outside of superintendent's office with option for privacy
Interim Ex Director of Student Services	Private office
Administrative Assistant	Reception area outside of Executive Director of Student Services Office with option for privacy
Administrative Assistant	Private office
Director of Finance & Operations	Private office including room for small meetings
Budget Analyst	Reception area outside finance and operations office
Accounts Payable Clerk	Reception area outside finance and operations office
Administrative Assistant HR	Private office outside finance and operations office
Payroll Supervisor	Private office outside finance and operations office
Director of Curriculum Elementary	Private office
Director of Curriculum Secondary	Private office
Administrative Assistant to Curriculum	Reception area outside office of Curriculum and Instruction
UPPER LEVEL TOTAL	Total Staff = 13
Special Education Administrator	Private office with reception area
Director of Out of District/Compliance	Private office with reception area
Director of Clinical Services	Private office with reception area
Behavior Analyst	Private office with reception area
Special Education Secretary	Reception area
Medicaid Clerk	Reception area
Director of Technology/Media	Private office
Transportation Director	Private office with reception area
Food Service Director	Private office reception area
	Special education testing/conference room
Coalition for Children 2 staff	2 private offices and a room for parenting classes/playroom for children
LOWER LEVEL TOTAL	Total Staff = 12
BUILDING TOTAL	**Staff = 25**

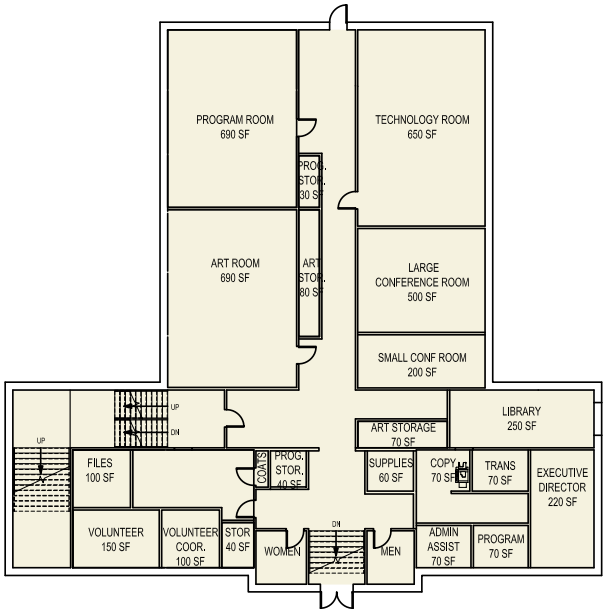


The existing school administration building floor levels would not align with a new building assuming the first floor was built on grade (most cost effective).

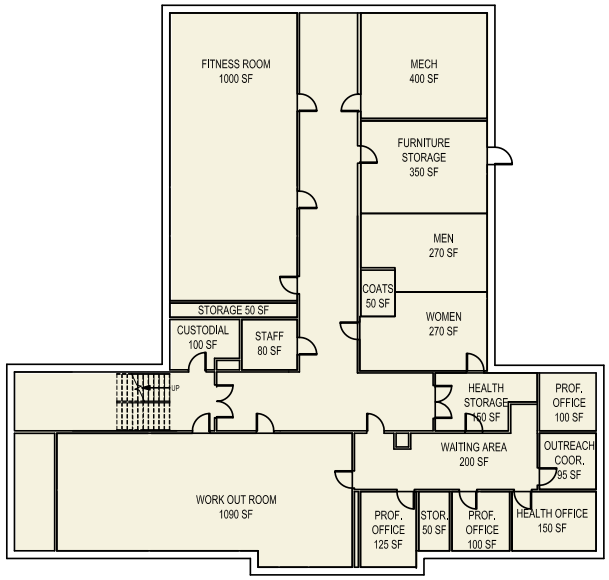
Existing floor plans of the school administration building

- corridor and stairs
- bathrooms

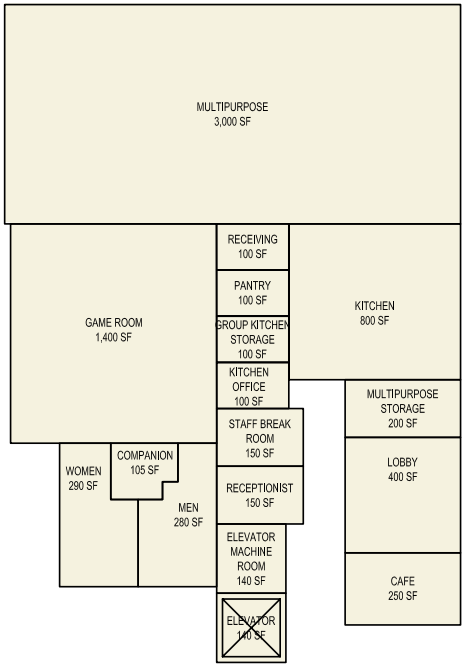
Senior Center Space Utilization Using Administration Building



UPPER LEVEL



LOWER LEVEL

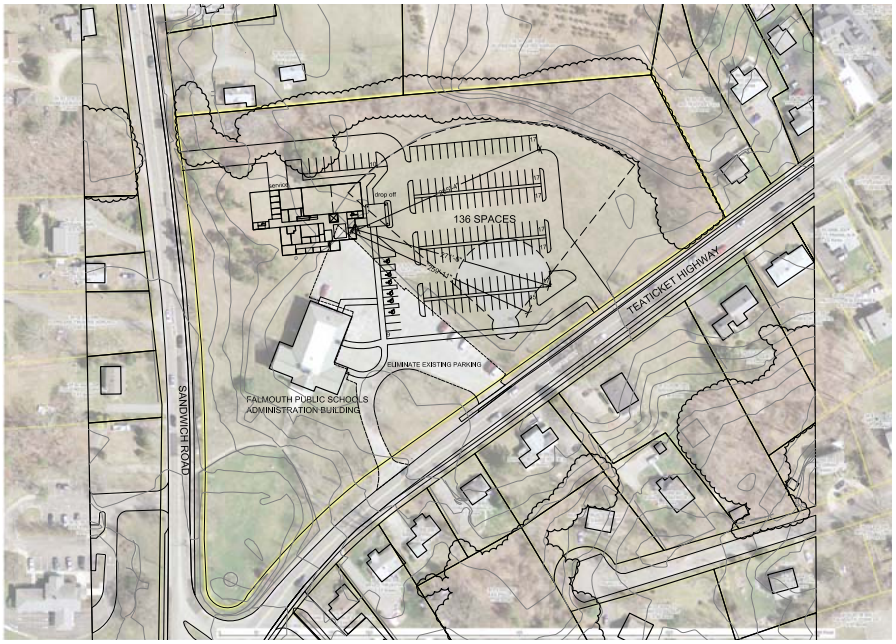


SCHOOL ADMINISTRATION BUILDING
SENIOR CENITER PROGRAM

There is 8,900 SF of usable area in the building requiring an addition of +/- 8,500 SF to house senior center spaces and make the building accessible to the disabled.

Senior Center and School Administration Building Connected

This scheme shows the School administration building with a new entry lobby and elevator that connects to a new senior center. Although the programs can be completely independent if the school administration needed a large space the senior center would be easily accessible.



Separate Senior Center

This scheme shows the senior center physically separate from the school administration building.

PARE PROJECT NO. 15065.00
REPORT

DRAFT TRAFFIC STUDY FOR THE FALMOUTH SENIOR CENTER FALMOUTH, MASSACHUSETTS

SUBMITTED TO:
BARGMANN HENDRIE + ARCHETYPE, INC.
300 A STREET
BOSTON, MA 02210-1710

SUBMITTED BY:
PARE CORPORATION
8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865

September 30, 2015

PARE CORPORATION

Introduction

The following represents the draft traffic study completed for a new Falmouth Senior Center in Falmouth, Massachusetts. The proposed facility is expected to be approximately 20, 000 square feet in size, roughly five (5) times the size of the existing center located on Dillingham Avenue. The purpose of this study is to provide information regarding access and safety in the vicinity of each potential location for the new site which will aid in the selection of a final site. There are currently two proposed sites, with the following options:

1) Falmouth High School Property – 874 Gifford Street
    a. Northern field hockey area with a single driveway off Gifford Street Extension
    b. Southern soccer field area with two driveways off Brick Kiln Road
2) Falmouth Public Schools Administration Property – 340 Teaticket Highway
    a. Adjacent to the existing building/lot with one added driveway on Teaticket Highway and one new driveway on Sandwich Road
    b. In place of the existing building/lot with one driveway on Teaticket Highway and one driveway on Sandwich Road

These shall be assessed as three potential sites – high school north, high school south and the school administration building, assuming conservatively that the senior center and administration building will share driveways.

Presented within are existing conditions in the vicinity of the project sites, a safety analysis of the study areas, gap study analysis and a capacity analysis of the traffic based on future 2022 build conditions. A locus map of the study area is provided in Figure 1 and conceptual plans for the sites are provided in Figures 2 through 5.

Data Collection

The senior center will have hours of operation from 8:00 a.m. to 4:00 p.m. with programming events, including meetings, scheduled between 9:00 a.m. and 2:00 p.m. As such, an automated traffic recorder (ATR) count was taken in the vicinity of each proposed driveway for a 48-hour period from Tuesday, September 22, 2015 and Wednesday, September 23, 2015. The data obtained was utilized in determining the proposed trip distribution to and from the site and to complete a capacity analysis of the proposed driveway intersections. In addition, gap studies were performed during peak periods at each proposed driveway to determine the extent of opportunities for seniors to access and depart from the proposed sites.

Crash data for the roadway network in the vicinity of the project sites was requested from the Town of Falmouth Police Department for the three (3) year period from September 2012 through August 2015. Additionally, crash data from the Massachusetts Department of Transportation (MassDOT) crash portal was reviewed for the three (3) year period from January 2011 through December 2013.

The Town of Falmouth Planning Department was contacted to determine the presence of planned or proposed developments within town that may generate additional traffic in the vicinity of this project.

A field review of the study area was conducted, with geometric measurements taken and other field observations recorded at the proposed site driveways and at the significant intersections in the vicinity of the project site that provide access to and egress from the proposed Falmouth Senior Center. The information obtained was used in the assessment of the study areas.

Project No. 15065.00 Date: September 2015

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Figure 1
Locus Map
Falmouth Senior Center
Falmouth, Massachusetts

Existing Roadway Conditions

The proposed Falmouth Senior Center will be located in one of three locations, with driveways provided as follows:

1) On the high school property, north of the existing building, with a single driveway off the western side of Gifford Street Extension (Option 1a);
2) On the high school property, south of the existing building, with two driveways off the northern side of Brick Kiln Road (Option 1b); or
3) On the school administration building property, adjacent to or in place of the existing building, with one driveway off the north side of Teaticket Highway and one driveway off the east side of Sandwich Road (Option 2).

Land use surrounding the high school site consists primarily of wooded land and single-family residential neighborhoods. Land use surrounding the school administration site consists of dense residential and commercial properties, and is located not far from the downtown area.

The study area is defined as the significant roadways in the vicinity of the proposed Falmouth Senior Center that may be impacted by traffic due to its construction. The following roadways are included in the study area for the proposed sites:

Study Area Roadways – High School Site

- Gifford Street Extension from Brick Kiln Road to Old Campus Drive (Option 1a)
- Brick Kiln Road from Andys Lane to Gifford Street Extension (Option 1b)

Study Area Roadways – School Administration Site (Option 2)

- Teaticket Highway from Sandwich Road to Maravista Avenue Extention
- Sandwich Road from Teaticket Highway to Pina Lane

Falmouth High School – Option 1a
Gifford Street Extension is a minor arterial with a 25 mph school zone speed limit posted. In the vicinity of the proposed site driveway, Gifford Street Extension is composed of one 12-foot wide travel lane with 1.5-foot wide shoulders in each direction and a 5.5-foot wide sidewalk on the western side of the roadway.

Falmouth High School – Option 1b
Brick Kiln Road is a minor arterial with a posted speed limit of 35 miles per hour. In the vicinity of the proposed site driveways, Brick Kiln Road has one 12.5-foot wide lane in each direction with 1.5-foot wide shoulders and no sidewalks.

School Administration Building – Option 2
Teaticket Highway (Route 28) is a principal arterial with a posted speed limit of 40 miles per hour. In the vicinity of the proposed site driveway, Teaticket Highway consists of one 11-foot wide travel lane in the eastbound direction with a 1-foot wide shoulder and one 12-foot wide travel lane in the westbound direction with a 1-foot wide shoulder. Sidewalks are located on both side of the roadway and are separated from the roadway by grass buffers. Sandwich Road is a principal arterial with a posted speed limit of 35 miles per hour. In the vicinity of the proposed site driveway, Sandwich Road consists of a 12-foot wide travel lane with a 2-foot wide shoulder in both the northbound and southbound directions. A 5-foot wide sidewalk is located along the east side of the roadway.

In addition to the roadway and intersection characteristics outlined above, the following observations were made during site visits conducted during the morning and afternoon peak hours of the proposed site on Thursday, September 10, 2015 and Wednesday, September 16, 2015:

- During both the a.m. and p.m. school peak periods observed near the Option 1a site, more traffic traveled to and from the south of the school, toward the intersection of Brick Kiln Road and Gifford Street Extension, than to and from the north.
- During the p.m. school peak period, the queue from the Brick Kiln Road and Gifford Street Extension intersection backed up along Gifford Street Extension to the school main driveway, though there was no appreciable queue observed during the a.m. peak period.
- During the p.m. school peak period, parents attempting to access the school from the north backup onto Gifford Street Extension toward the student parking area, but not to the proposed entrance to the senior center.
- The queue from the Brick Kiln Road and Gifford Street Extension backed up to the easterly proposed driveway of the Option 1b site one time during the p.m. peak period observed while there was no queue noted during the a.m. peak period.
- During the p.m. peak observed, the queue from the intersection of Teaticket Highway and Sandwich Road backed up along Teaticket Highway to the easterly driveway of the existing administration building loop, and the queue from the intersection of Teaticket Highway and Maravista Avenue Extension backed up along Teaticket Highway to the school sign (S1-1), approximately 200 feet east of the proposed Option 2 site driveway. No appreciable queue was noted along Teaticket Highway during the a.m. peak or along Sandwich Road during either peak.

Existing Traffic Volumes

Based on the proposed uses of the relocated Falmouth Senior Center, the peak periods were defined as morning arrival from 7:45 to 8:45 a.m., midday meeting from 11:30 a.m. to 12:30 p.m. and afternoon departure from 3:15 to 4:15 p.m. These times encapsulate the center opening, closing, and occasional lunchtime meeting, which attract the largest influx according to the staff at the existing senior center. These times overlap with the standard commuter peaks, defined as 7:00 to 9:00 a.m., 11:00 a.m. to 1:00 p.m. and 4:00 to 6:00 p.m. These times were consistent with the commuter peaks on the study area roadways, with the addition of the p.m. peak along Gifford Street Extension. Due to the location of the high school and the low density of development around it, Gifford Street Extension experiences its midday peak from 1:45 to 2:45 p.m., surrounding the school release.

The counts were performed after the Falmouth public schools summer break, and therefore included existing movements associated with both the high school and administration building. For this reason, the count data collected was not adjusted to account for a seasonal adjustment, as these are the busiest times near the proposed sites.

Gap Analysis

Under existing conditions, a gap analysis study was performed at each proposed driveway to assess the frequency and length of gaps sufficient for access to and egress from the potential sites. According to the Transportation Research Board's (TRB) latest edition of the *Highway Capacity Manual* (HCM), a motorist requires a gap of at least 6.2 seconds to make a right-turn and at least 6.4 seconds to make a left-turn out of a stopped driveway and a gap of at least 4.1 seconds to make a left-turn into a driveway across one lane of traffic. As the majority of trips to and from the senior center will be elderly drivers, one second was added to account for additional

hesitation. Therefore, all gaps in or above the 8 to 9 second range will be sufficient for any movement, and gaps with extended lengths will allow for multiple movements. The gap data collected along the study roadways is summarized in Table 1, and a complete account of the data and be found in Appendix B.

Table 1: Gap Analysis Summary

		Number of Acceptable Gaps per Hour	Average Combined Gap Length (sec)
Brick Kiln	AM	287	4-5
	PM	232	4-5
Gifford	AM	168	20-21
	PM	180	10-11
Teaticket	AM	172	2-3
	PM	216	4-5
Sandwich	AM	288	8-9
	PM	248	4-5

The number of acceptable gaps per hour is four (4) times the total of right-turns (adjacent lane only) and left-turns (combined gaps) counted during a 15-minute interval during each peak period. The actual number of vehicles allowed to enter and exit the driveway within the hour will be higher than the number of acceptable gaps tallied, since longer gaps allow more than one vehicle to exit at a time. The data shows that all driveways have a high frequency of acceptable gaps, and many have average gap lengths to allow for more than one vehicle to exit at a time.

Safety Analysis

Crash Data

Crash data was received from the Town of Falmouth Police Department for the three (3) year period of September 2012 through August 2015 in the vicinity of the proposed sites. This data was reviewed to determine the presence of safety concerns within the study areas. In addition to data from the town, crash data was reviewed from the MassDOT crash portal for the most recent three (3) years available, from January 2011 through December 2013. This data confirmed the number and type of incidents reported per year. Furthermore, it indicated that none of the study roadways or adjacent intersections are identified on the MassDOT Highway Safety Improvement Program (HSIP) as cluster locations. The HSIP clusters portray areas of greatest concern due to either incident frequency or severity to motorists and/or pedestrians.

According to the data reviewed there were 35 total incidents that occurred in the study areas. Of these 35 total incidents, seven (7) incidents occurred on the study area roadways not specifically at an adjacent intersection. Of these incidents, one (1) resulted in non-fatal injuries with a total of two (2) injured persons and none resulted in fatal injuries. The two incidents along Gifford Street occurred at the high school, one involving a skid under slippery conditions while turning into the site and one in the parking lot where a motorist struck a parked car while attempting to park. A breakdown of the incidents by type and number of injuries can be seen below in Table 2.

Table 2: Crash Summary for Study Area Roadways

Roadway	Non-Fatal Injuries	Fatal Injuries	Angle	Head-On	Object	Other	Rear-End	Side-Swipe
Gifford St	0	0	1	0	1	0	0	0
Teaticket Hwy	2	0	0	0	1	0	1	0
Sandwich Rd	0	0	0	0	1	1	1	0

According to the data received, the remaining 28 incidents occurred at or approaching a particular intersection surrounding the proposed sites. Of these incidents, 10 resulted in non-fatal injuries with a total of 14 injured persons and none resulted in fatal injuries. A breakdown of the incidents by type and number of injuries can be seen below in Table 3.

Table 3: Crash Summary for Study Area Intersections

Intersection	Non-Fatal Injuries	Fatal Injuries	Angle	Head-On	Object	Other	Rear-End	Side-Swipe
Brick Kiln Rd/ Gifford St	1	0	1	0	1	0	1	0
Gifford St/ Old Campus Dr	1	0	0	0	0	0	1	0
Teaticket Hwy/ Sandwich Rd	9	0	4	0	2	0	6	0
Teaticket Hwy/ Maravista Ave	3	0	5	0	1	0	4	2

The data received shows a higher occurrence of single vehicle incidents on roadway segments and a higher incident of angle and rear-end incidents at intersections. These are generally low severity incidents and are the most common types of incidents expected for each scenario. There were no trends or intensities of incidents noticed that would require or lend themselves to mitigation.

An additional measure of safety is crash rate, which assesses the number of crashes per million vehicle miles traveled along roadway segments. For comparison, MassDOT calculates these crash rates on the statewide level by roadway type. These averages can be seen in Table 4.

Table 4: Crash Rate Averages

	Urban Principal Arterial - Freeway	Urban Principal Arterial - Other	Urban Minor Arterial
Statewide	0.65	3.35	3.74

The crash rates calculated for the roadway segments within the study areas are summarized in Table 5. All were well below the statewide average for their respective roadway type.

Table 5: Study Area Crash Rates

	Urban Principal Arterial - Freeway	Urban Principal Arterial - Other	Urban Minor Arterial
Statewide	0.65	3.35	3.74
Brick Kiln	-	-	0.00
Gifford	-	-	0.69
Teaticket	0.53	-	-
Sandwich	-	1.75	-

A summary table of all crash data reviewed and the crash rate worksheets are provided in Appendix C.

Sight Distance

The American Association of State Highway and Transportation Officials (AASHTO) publication *A Policy on the Geometric Design of Highways and Streets, Sixth Edition 2011,* specifies the minimum safe stopping sight distance (SSD) required along roadways. This publication also dictates that the sight distance should be based on the design speed, which is generally 7 miles per hour greater than the posted speed limit. Based on this guidance, the design speed and associated minimum SSD for each study roadway are shown in Table 6.

Table 6: Sight Distance Requirements

	Design Speed	SSD Required
Brick Kiln	42 mph	327’
Gifford	32 mph	220’
Teaticket	47 mph	386’
Sandwich	42 mph	327’

The available sight distance was measured from each proposed site driveway during the field observations conducted on Thursday, September 10, 2015 and Wednesday, September 16, 2015. At the site along Gifford Street Extension, sight distance was limited in both directions by horizontal curvature of the roadway. At the site along Brick Kiln Road, there was clear sight distance to the east to the intersection with Gifford Street Extension and sight distance to the west was limited by horizontal curvature of the roadway. At the administration building site, there was clear sight distance along Teaticket Highway and Sandwich Road to adjacent intersections in both directions. The results of the sight distance analysis are summarized in Table 7. The distances listed for the Brick Kiln Road site are measured to the left from the easterly proposed driveway and to the right from the westerly proposed driveway.

Table 7: Sight Distance Summary

	Looking Left	Looking Right
Brick Kiln	350’	400’
Gifford	215’	200’
Teaticket	>500’	>500’
Sandwich	>500’	>500’

Future Conditions

To account for background growth along the roadways within the vicinity of the project site, the existing traffic volumes were projected over a seven-year horizon from 2015 to 2022. Recent Census data for the Town of Falmouth was reviewed to determine the appropriate growth rate. The available Census data showed a 3.5% decrease in population from 2000 to 2010. To provide a conservative analysis of the project area, a growth rate of 0.5% per year was used for the seven-year projection. A copy of the available Census Data can be found in Appendix D.

As the Town has confirmed there is no other development proposed in the study area, no additional volumes were added to those projected.

Build Conditions

The future 2022 build condition represents the future 2022 no-build condition plus traffic associated with the proposed Falmouth Senior Center.

Site Description
The Falmouth Senior Center will be comprised of a 20,000 square foot, two floor building. The facility will allow seniors to partake in activities, programs and meetings. To accommodate employees, general activity and meetings at the same time, the parking lot will be configured for 150 spaces, the maximum projected based on inflation from the existing size and use, regardless of proximity to transit or potential walkability. This value incorporates a common carpool factor of 1.5 passengers per car, based on conversations with existing centers with similar programming. If the administration building site (Option 2) is selected, an additional 20 spaces will be provided for administrative staff and visitors.

Access to the senior center will vary depending on the site selected. If the high school north option (Option 1a) is selected, the facility will have one driveway located off the west side of Gifford Street Extension. If the high school south option (Option 1b) is selected, the facility will have two driveways, both located off the north side of Brick Kiln Road. If the school administrative building site (Option 2) is selected, the facility will have two driveways, one located off the north side of Teaticket Highway and one located off the east side of Sandwich Road. ;

Trip Generation
Trip generation is typically calculated for particular land uses using rates provided in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. However, recreational senior center is not one of the uses defined by ITE. Therefore, trip generation was based on data obtained from the existing senior center. The existing facility, 4,000 square feet in size with approximately 30 parking spaces, currently attracts up to 75 attendees on an average day. Lunch meetings currently have attendance of up to 200, consisting of attendees already on site from other programs and additional arrivals for the lunch alone. Given the increase in space for general activities, but no anticipated change in meetings, the daily attendance is assumed to increase to a maximum of 375 patrons per day, with an additional 150 arriving for a lunch meeting, assuming at least one quarter of the total lunch attendance is already on site.

The following assumptions were made regarding other aspects of the generation:

- A staff of 20 employees is assumed at the senior center, with an additional 15 employees at the administration building site, if selected.
- All employees arrive during the a.m. peak and depart during the p.m. peak.

- Based on a daily attendance of 375 individuals, an average daily traffic volume (ADT) of 750 trips is assumed to and from the site, not including meetings. No carpool factor was assumed for trips during the a.m. and p.m. peaks to provide a conservative approach.
- Based on the nature of lunch meetings and the influx currently experienced at the existing facility, a carpool factor of 1.5 passengers per vehicle is applied to these trips.
- During the a.m. peak, it is assumed 10% of the average daily senior trips to and from the site will occur with 2/3 entering and 1/3 exiting.
- During the p.m. peak, it is assumed 10% of the average daily senior trips to and from the site will occur with 1/3 entering and 2/3 exiting.
- During the midday peak, it is assumed a meeting will be beginning with 100 trips entering and a maximum of 50 exiting, with the exception of the potential driveway on Gifford Street Extension, where the midday peak occurs in the early afternoon. For this site, the reverse is assumed, with a maximum of 50 entering and a meeting ending with 100 exiting.

The results of the trip generation calculations are summarized in Table 8 below.

Table 8: Trip Generation Summary

Time of Day	Entering Site Trips	Exiting Site Trips	Total Site Trips
Weekday (A.M. Peak Hour of Generator)	70[1]	25	95
Weekday (Midday Peak Hour of Generator)	100[2]	50[2]	150
Weekday (P.M. Peak Hour of Generator)	25	70[1]	95

1. An additional 15 trips added for administrative employees at the administrative building site.
2. Entering and exiting volumes reversed for high school north site.

Finally, at sites with two driveways, it was assumed that half of all entering and exiting trips would go to each driveway, including the high school south and school administration sites.

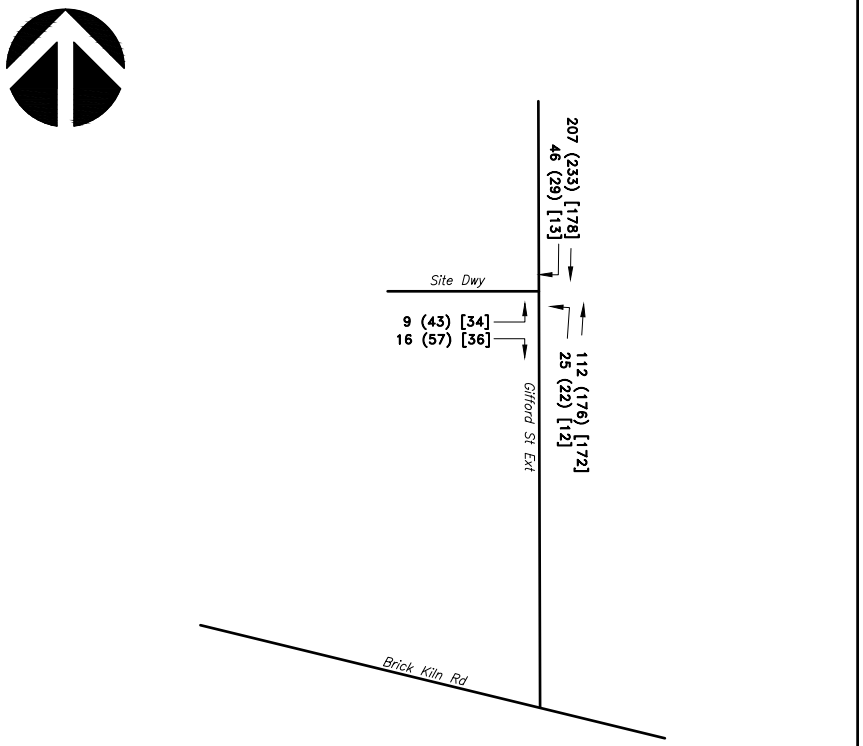
Trip Distribution
Trip distribution was completed for the Falmouth Senior Center by adding the proposed traffic into the existing traffic stream using the existing travel patterns based on the ATR data. Trip distribution calculations are summarized in Table 9.

Table 9: Trip Distribution Summary

	Brick Kiln		Gifford		Teaticket		Sandwich	
Time of Day	EB	WB	NB	SB	EB	WB	NB	SB
Weekday (A.M. Peak Hour)	54%	46%	35%	65%	35%	65%	31%	69%
Weekday (Midday Peak Hour)	46%	54%	43%	57%	47%	53%	52%	48%
Weekday (P.M. Peak Hour)	45%	55%	49%	51%	52%	48%	57%	43%

Traffic volumes for the a.m., midday and p.m. peak hours of the future 2022 build condition are shown in Figures 6 through 8.

Complete trip generation and distribution calculations are provided in Appendix E.



Legend: Weekday AM Peak Hour (Weekday Midday Peak Hour) [Weekday PM Peak Hour]

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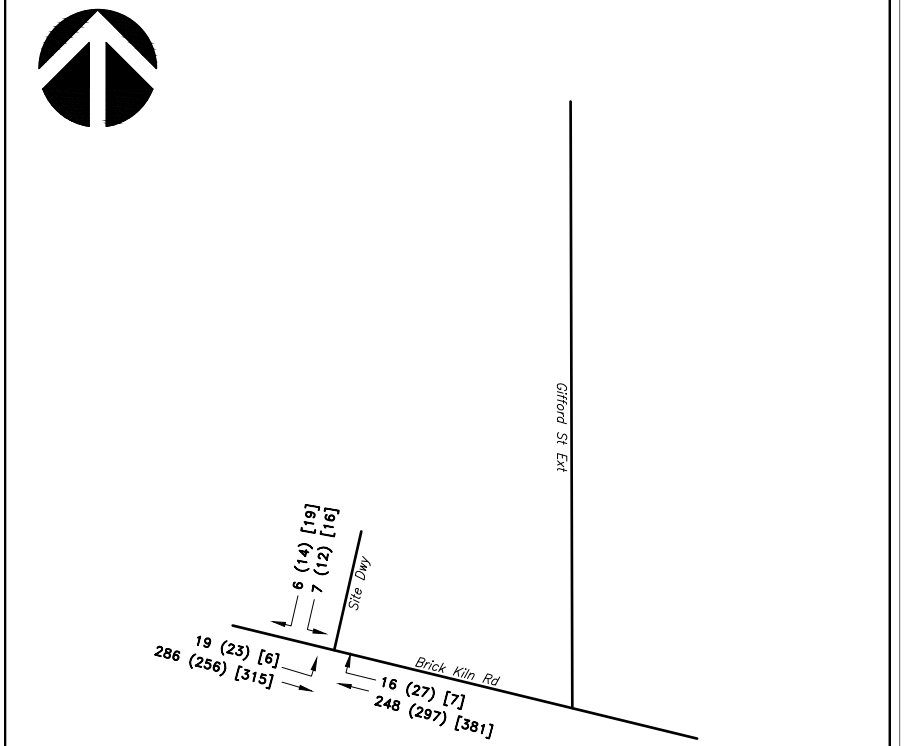
Figure 6
Future (2022) Build Volumes - Option 1a

Falmouth Senior Center
Falmouth, Massachusetts



Legend: Weekday AM Peak Hour (Weekday Midday Peak Hour) [Weekday PM Peak Hour]

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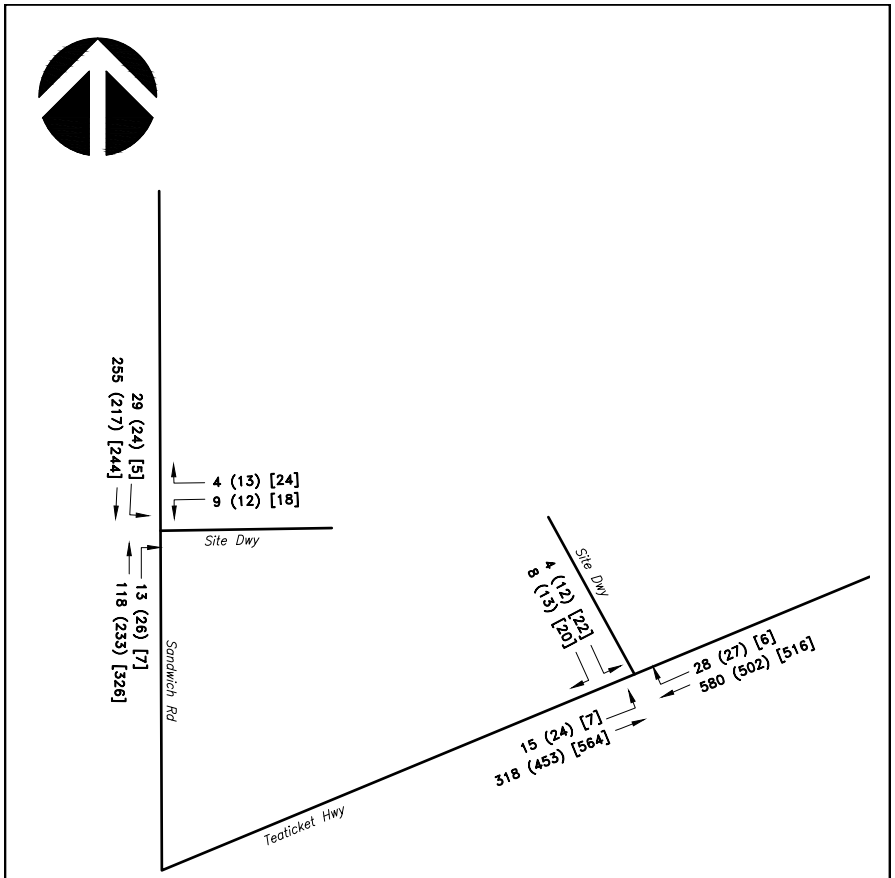
Figure 7
Future (2022) Build Volumes - Option 1b

Falmouth Senior Center
Falmouth, Massachusetts



Legend: Weekday AM Peak Hour (Weekday Midday Peak Hour) [Weekday PM Peak Hour]

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Figure 8
Future (2022) Build Volumes - Option 2

Falmouth Senior Center
Falmouth, Massachusetts

Capacity Analysis – Existing, Future No-Build, and Future Build Conditions

Capacity analysis was completed for all potential driveway locations for future 2022 build conditions. Capacity analysis characterizes intersections based on their level of service (LOS). LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed, travel times, traffic interruptions, etc. Six LOS, from A to F, are defined for unsignalized intersections, with A representing the best operating conditions and F representing the worst operating conditions. The LOS criteria for unsignalized intersections are provided in Table 10 below.

Table 10: LOS Criteria for Unsignalized Intersections

	Unsignalized Intersection
LOS	Delay Time (sec/veh)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

All potential site driveways are expected to operate at acceptable LOS during all three peak periods analyzed at each location. Table 11 provides the capacity analysis results for all potential driveway locations during the a.m., midday and p.m. peak hours.

Table 11: Peak Hour LOS Table

		A.M. Peak Hour		Midday Peak Hour		P.M. Peak Hour	
		LOS (Delay, sec/veh)	95th Percentile Queue Length (feet)	LOS (Delay, sec/veh)	95th Percentile Queue Length (feet)	LOS (Delay, sec/veh)	95th Percentile Queue Length (feet)
Brick Kiln Road at Site Driveway							
Southbound	Approach	B (11.7)	3	B (12.1)	5	B (13.2)	8
Eastbound	Approach	A (0.5)	0	A (0.7)	3	A (0.2)	0
Westbound	Approach	N/C	-	N/C	-	N/C	-
Gifford Street Extension at Site Driveway							
Northbound	Approach	A (1.4)	3	A (0.9)	3	A (0.5)	0
Southbound	Approach	N/C	-	N/C	-	N/C	-
Eastbound	Approach	B (10.4)	3	B (13.0)	18	B (10.8)	10
Teaticket Highway at Site Driveway							
Southbound	Approach	C (15.1)	3	C (17.2)	8	C (19.7)	15
Eastbound	Approach	A (0.4)	3	A (0.4)	3	A (0.1)	0
Westbound	Approach	N/C	-	N/C	-	N/C	-
Sandwich Road at Site Driveway							
Northbound	Approach	N/C	-	N/C	-	N/C	-
Southbound	Approach	A (0.8)	3	A (0.8)	3	A (0.2)	0
Westbound	Approach	B (11.0)	3	B (11.3)	3	B (12.0)	8

Conclusions

The gap study conducted indicated that all potential driveway locations will have more than sufficient number of gaps per hour to accommodate the anticipated movements into and out of the proposed Falmouth Senior Center. However, the location along Gifford Street Extension (Option 1a) has the greatest average gap length, which may be more conducive to elderly drivers.

The crash data reviewed from the Town of Falmouth Police Department for the study areas indicated a lower than average frequency of crashes on the roadway segments adjacent to the proposed site driveways. However, having a greater volume of daily traffic, the roadways adjacent to the administration building (Option 2) experience a greater number of incidents per year than those adjacent to the high school property (Options 1a and 1b). All of the incidents reviewed were of low severity in nature.

The available stopping sight distances from the proposed site entrances exceed the AASHTO requirements for the selected design speeds on the roads adjacent to each potential site, with the exception of the driveway to be located on the west side of Gifford Street Extension (Option 1a).

Though the LOS of movements out of a proposed driveway on Teaticket Highway (Option 2) are slightly lower than along the roadways adjacent to the high school property (Options 1a and 1b), they are still well within the acceptable range of A to D.

The final component that should be considered in the selection for the expanded Falmouth Senior Center is the character of the area surrounding the potential sites. The high school property (Options 1a and 1b) is more remote, with a natural and sparse residential surrounding. The administration building property (Option 2) is located near the town center, with both transit service and increased walkability.

Table 12 provides a direct comparison of the pros and cons associated with each potential location.

Table 12: Site Comparison

	High School North – Option 1a	High School South – Option 1b	Admin Building – Option 2
Criteria	**Ranking**		
Adequate Gaps	Y	Y	Y
Safe Roadways	Y	Y	Y
Adequate Sight Distance	N	Y	Y
Acceptable Level of Service	Y	Y	Y
Nearby Accommodations	N	N	Y

The three sites being considered are all viable options. The only concern worth noting is the limited sight distance available at the proposed driveway for the high school Option 1a along Gifford Street Extension.

SECTION 4
PROGRAM

During phase two a senior center program was developed with the Council On Aging (COA). The program was used to create very conceptual block diagram schemes for both a single story building and a two story building. The block diagrams helped show how a building could be placed on a site, where the main entries and services could be located and how the parking could relate to the building. The block diagrams also provided better understanding of whether a one story or two story building would fit on a site.

PROGRAM

Falmouth Senior Center
May 5, 2015, May 15, 2015, September 15, 2015

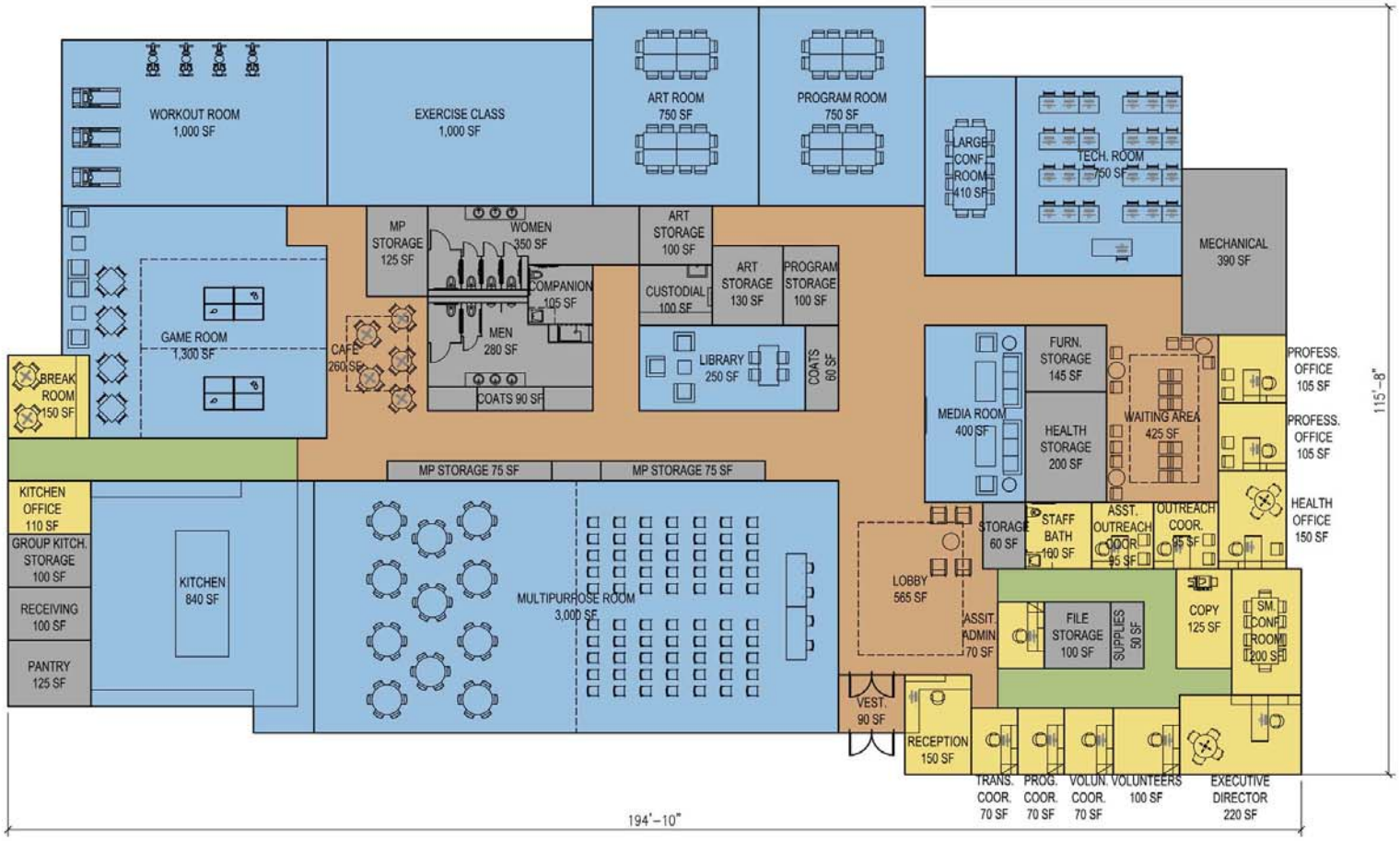
PRELIMINARY PROGRAM

		program area	Egress occupant count	Occupants typical day	Occupants special event
Lobby/Reception					
Lobby / Reception & Information Area		400			
Lobby Coat Room		50			
	Subtotal	**400**	**8**	4	2
Administrative Offices					
Reception Desk / Receptionist		150			
Administrative Assistant workstation (reports to director, near reception)		70			
Executive Director office (small conf table & 2 chairs)		220			
Outreach Coordinator office (similar to social worker)		100			
Assistant Outreach Coordinator office		100			
Transportation Coordinator workstation		70			
Program Coordinator workstation		70			
Volunteer Coordinator workstation		70			
Volunteer / Friends Office or workstation		100			
Health Office (Town Nurse)		150			
Professional Office 1 (shared)		100			
Professional Office 2 (shared)		100			
Private Waiting Area for offices or nurse		50			
Copy		100			
Supplies		50			
	Subtotal	**1,500**	**15**	10	10
Program Spaces					
Multi-Purpose Room		3,000	200.0	50	200
Library Reading & Lounge Area		250	3	2	
Program Room: General		750	37.5	20	
Program Room: Technology Learning Center (computers)		750	15		
Program Room: Arts & Crafts		750	15	15	
Arts & Crafts Storage		150	0.5		
Conference Room: large (20)		400	20	10	
Conference Room: small (8)		delete			
Wellness Center: Workout Room with Equipment		1,000	10	8	
Wellness Center: Exercise Class Area		1,000		10	
Game Room		1,400	28	10	4
Media Room / small Program Room		400		4	
	Subtotal	**9,850**	**329**	129	204
Food Service					
Kitchen		800			
Kitchen Office		100			
Pantry Storage		100			
Group Kitchen Storage (storage for activity groups)		100			
Staff Break Room		delete			
Café Space		250			
Loading / Receiving / Storage		100			
	Subtotal	**1,450**	**7.25**	6	8

		program area	Egress occupant count	Occupants typical day	Occupants special event
Restrooms					
Women's Restroom		250			
Men's Restroom		250			
Companion Restroom with Shower		100			
Staff Restroom		100			
	Subtotal	**700**			
Support Spaces					
Mechanical / Electrical / Sprinkler		400	1		
Custodian		100	1		
Multi-Purpose Room Storage		200			
Program Room Storage		100			
Medical & Health Equipment Storage		100			
File Storage		delete			
Exterior Furniture Storage		100			
Interior Furniture Storage		100			
Coats other than lobby coat room		delete			
	Subtotal	**1,100**	**2**	1	1
	Total Net Square Feet	**15,000**			
	Grossing Factor	1.20			
	Total Program Gross Area	**18,000**			
	Total Occpants		**361**	**150**	**225**
Additional Requirements for two-story building					
Communicating Stair (1st and 2nd floor area)		400			
Fire Stair (1st and 2nd floor area)		400			
Men's 2nd Floor Restroom		125			
Women's 2nd Floor Restroom		125			
Elevator (1st and 2nd floor area)		200			
Elevator Machine Room		100			
Custodian, 2nd Floor		50			
	Total Net Square Feet	**1,400**			
	Grossing Factor	1.20			
	Area required for two story building	**1,680**			
	Total Gross Area for 2 Story Building not including Van Garage	**19,680**			
PARKING					
	parking spaces requireed per zoning using business, health and assembly uses		**134**		
	people per car			1.5	1.5
	parking spaces			**100**	**150**
Additional Requirements					
Garage Bay for 2 Vans		**600**			

Block Diagram

One Story Option



FALMOUTH SENIOR CENTER
BLOCK DIAGRAM 1 STORY BUILDNG
TOTAL AREA 19,740 GROSS SQUARE FEET
Bargmann Hendrie + Archetype, Inc

Block Diagram

Two Story Option

SECTION 5
COST ESTIMATE

Daedalus Projects Inc. used the plans and specification to calculate a cost estimate for each of the schemes assuming a construction start of April 2017. The estimates are based on a 15,000 gross square foot building with three additional options:

Option 1 is for an additional 5,000 gross square foot space, constructed in 2017

Option 2 is for an additional 5,000 gross square foot shell only assuming a fit out will be in the future

Option 3 is for an additional 5,000 gross square foot entirely done in the future (assumes over 5 years)

Cost Ranges

	Construction Cost Cost in millions	Total Project Cost Cost in millions
School Administration 1 as a stand alone, includes field replacement	$6.8 - 7.5	$8.8 - 9.5
HS Gifford Street Extension includes field replacement	$7.0 - 7.5	$9.0 - 9.5
HS Brick Kiln Road includes field replacement	$7.2 - 7.7	$9.2 - 9.7
School Administration 2 as an addition with renovation of existing building, includes field replacement	$8.8 - 9.3	$10.8 - 11.3

The renovation to the school administration is building is most costly for many reasons. The building will need to be brought up to current codes including making the building accessible and adding sprinklers. All the interior finishes need to be updated and there needs to be a building wide upgrade to the HVAC system.

DAEDALUS

Falmouth Senior Center
Site Selection Options
Falmouth, MA

September 28, 2015

Concept Design Estimate

Architect:
Bargmann Hendrie + Archetype
300 A Street
Boston, MA 02210
(617) 350 0450

Cost Consultant
Daedalus Projects Incorporated
112 South Street
Boston, MA 02111
(617) 451 2717

INTRODUCTION

Project Description:

- Analysis of three site locations for new senior center program
- New construction to house senior center program, 15,000gsf
  - concrete foundations and slab on grade, steel structural frame
  - wood and composite siding, aluminum framed glazing, asphalt shingle pitch roofing
  - drywall partitions, ACT ceilings, carpet flooring
  - Multipurpose, game and art rooms, kitchen
  - full fire sprinkler coverage
  - heat recovery ducted HVAC system
- New construction option of additional 5,000gsf
- Renovation of School Administration building, including window and roof replacements
- New sports field replacement in new location

Options to Base Estimate:

- Option 1. (Base Estimate)
  - Additional 5,000gsf full construction including program
- Option 2.
  - Additional 5,000gsf shell space only. Fit-out some time in the future
- Option 3.
  - Additional 5,000gsf entirely as a future project

Project Particulars:

- Site Plans and Block Diagrams dated September 14, 2015 prepared by Bargmann Hendrie + Archetype, Inc.
- Detailed quantity takeoff from these documents where possible
- Discussion and review with Bargmann Hendrie + Archetype, Inc.
- Daedalus Projects, Inc. experience with similar projects of this nature

DAEDALUS
Falmouth Senior Center
Site Selection Options
Falmouth, MA

INTRODUCTION

Project Assumptions:

- The project will be procured by GC/Filed-Sub Bid as per MGL chapter 149 bidding process
- The project will be bid and built by a General Contractor single prime contract
- The Total Estimated Construction Cost reflects the fair construction value of this project in a competitive bidding market
- Unit rates are based on current dollars and include an escalation allowance to cover the construction duration
- Operation during normal business hours
- Site and adjacent building(s) will be occupied during entire construction period
- Lay-down/storage area, jobsite shed and trailers, and construction site entrance will be located outside adjacent to Project area
- Temporary electrical and water site utility connections will be available. General Conditions value includes utility connections and consumption costs
- General Conditions and Project Requirements includes items from Div 01 General Requirements
- Noise and vibration disturbances are anticipated and will be minimized or avoided during normal business hours
- Subcontractor's markups have been included in each unit rate
- Included in the Subcontractor's markups are the costs of field logistics, home office overhead and profit
- Design and Pricing Contingency markup is included in the unit rates
- General Conditions and Requirements value has been carried in the Main Summary for on-site supervision staff, site office, temporary utilities, project requirements, overheads
- Profit markup is calculated on a percentage basis of direct construction costs
- Start of new construction is assumed April 2017
- Escalation from now to start of construction has been carried in the Main Summary at an allowance of 3½% per year
- Escalation during construction has been carried in the unit rates

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Falmouth Senior Center
Site Selection Options
Falmouth, MA

INTRODUCTION

Estimate Exclusions:

- Rock excavation
- Construction Contingency
- Work beyond the boundary of the site
- Winter conditions
- Site or existing condition surveys and investigations
- Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying
- Interest expense
- Owner's administration; legal fees, advertising, permitting, Owner's insurance, administration
- Owner's site representation and project administration
- Police details and street/sidewalk permits
- Testing and commissioning
- Project costs; utility company back charges prior to construction, construction of swing space and temporary facilities, program related phasing, relocation
- Owner furnished and installed products; furnishings, equipment, artwork, loose case goods, and similar items

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Falmouth Senior Center
Site Selection Options

MAIN SUMMARY

	School Admin Bldg 17,140 GSF		Brick Kiln Road 16,115 GSF		Gifford Street 14,740 GSF	
	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF
Direct Trade Costs						
Sitework	$1,300,000	$8.97	$1,445,000	$7.23	$1,252,000	$8.94
New Building	$4,095,000	$238.91	$3,498,000	$217.06	$3,414,000	$231.61
Additional Option 1.	$703,000	$140.60	$703,000	$140.60	$629,000	$125.80
Renovation of School Administration Building	$105,000	$7.50	n/a		n/a	
New Sports Field	$80,000		$75,000		$100,000	
Direct Trade Cost Subtotal	**$6,283,000**	**$366.57**	**$5,721,000**	**$355.01**	**$5,395,000**	**$366.01**
Burdens and Markups						
General Conditions, Project Requirements	$628,000	$36.64	$572,000	$35.49	$540,000	$36.64
Sub-Contractor Bonds	$79,000	$4.61	$72,000	$4.47	$67,000	$4.55
General Liability Insurance	$77,000	$4.49	$70,000	$4.34	$66,000	$4.48
Permit Fee $8 per $1,000	$50,000	$2.92	$46,000	$2.85	$43,000	$2.92
Profit	$188,000	$10.97	$172,000	$10.67	$162,000	$10.99
Estimated Construction Cost Total	**$7,305,000**	**$426.20**	**$6,653,000**	**$412.85**	**$6,273,000**	**$425.58**
Escalation from now to start of construction	$387,000	$22.58	$353,000	$21.91	$332,000	$22.52
ECC including Escalation Total	**$7,692,000**	**$448.77**	**$7,006,000**	**$434.75**	**$6,605,000**	**$448.10**
Options to Base Estimate Additional GSF including burdens and markups:						
Option 1. (Base Estimate)	$817,000	$163.40	$817,000	$163.40	$731,000	$146.20
Option 2.	$422,000	$84.40	$422,000	$84.40	$621,000	$124.20
Option 3.	$1,045,000	$209.00	$1,045,000	$209.00	$937,000	$187.40

AEDALUS

Falmouth Senior Center
School Admin. Building Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
7	**SITEWORK**	145,000 GSF			
8					
9	Site prep, erosion control, temp fencing	**1**	LS	$50,000.00	$50,000
10	Demo existing parking, strip site, grubbing	**145,000**	SF	$1.00	$145,000
11	Bulk earthwork, cut/fills, grading	**145,000**	SF	$0.50	$72,500
12	New drop off, service driveway, parking	**65,000**	SF	$5.00	$325,000
13	Pedestrian sidewalk	**3,000**	SF	$7.50	$22,500
14	Curbing	**3,300**	LF	$20.00	$66,000
15	Parking space, crosswalk, directional markings	**136**	SP	$55.00	$7,480
16	ADA parking; sign, post, graphic painting, drop curb	**5**	SP	$325.00	$1,625
17	Site improvements, soft plantings	**66,140**	SF	$2.50	$165,350
18	New water service	**1**	LS	$25,000.00	$25,000
19	New sanitary drain system	**1**	LS	$20,000.00	$20,000
20	New storm water retention system	**65,000**	GSF	$5.00	$325,000
21	New site lighting	**15**	FIX	$5,000.00	$75,000
22	**Sitework Total (rounded)**				**$1,300,000**
23					
24					
25	**NEW BUILDING - BASE ESTIMATE**	17,140 GSF			
26					
27	Underpinning at existing foundation	**45**	LF	$2,500.00	$112,500
28	Strip footing, foundation wall	**480**	LF	$255.00	$122,400
29	Slab on grade	**10,860**	SF	$10.00	$108,600
30	Elevator pit, waterproofing, pit ladder, hoist beam	**2**	EA	$25,000.00	$50,000
31	Steel framed structure	**94**	TNS	$3,750.00	$353,513
32	Upper floor plate metal deck, concrete topping	**6,280**	SF	$8.50	$53,380
33	Exterior wall cladding system, 20% masonry, 80% wood	**6,270**	SF	$55.00	$344,850
34	Aluminum glazed openings in exterior wall, 25% of total	**2,090**	SF	$95.00	$198,550
35	Entrance door, door operator	**4**	PR	$10,000.00	$40,000
36	Exterior egress door	**2**	LEAF	$2,000.00	$4,000
37	Asphalt shingle pitch roofing system, 5:12 pitch	**15,390**	SF	$20.00	$307,800
38	Monumental stair	**1**	FLT	$50,000.00	$50,000
39	Monumental stair, long straight flight	**1**	FLT	$40,000.00	$40,000
40	Egress metal pan stair system, rubber flooring	**2**	FLT	$15,000.00	$30,000
41	Guard railing at open-to-below	**35**	LF	$350.00	$12,250
42	Interior partitions	**2,130**	LF	$125.00	$266,250
43	Interior door	**49**	LEAF	$1,500.00	$73,500
44	Restrooms; tile flooring, tile wainscot, ACT ceiling	**1,370**	GSF	$30.00	$41,100

AEDALUS

Falmouth Senior Center
School Admin. Building Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
45	Kitchen; linoleum, FRP wainscot, ACT ceiling	**800**	GSF	$25.00	$20,000
46	Multipurpose; wood flooring, GWB ceiling	**3,000**	GSF	$25.00	$75,000
47	Game, Fitness, Workout; wood flooring, ACT ceiling	**3,400**	GSF	$20.00	$68,000
48	Remainder flooring, wall and ceiling finishes	**8,570**	GSF	$6.09	$52,210
49	Millwork, casework, standing and running trim	**17,140**	GSF	$5.00	$85,700
50	Folding acoustical partition	**40**	LF	$600.00	$24,000
51	Interior signage, fire extinguishers	**17,140**	GSF	$0.40	$6,856
52	Restroom compartments and toilet accessories	**1,370**	GSF	$11.50	$15,755
53	Projection screen; multipurpose, media, conference	**5**	EA	$1,500.00	$7,500
54	Kitchen food service equipment	**800**	GSF	$90.00	$72,000
55	Window shades, room darkening shades	**2,090**	SF	$10.00	$20,900
56	Elevator, 2 stop, 1 cab opening	**2**	EA	$85,000.00	$170,000
57	Fire sprinklers	**17,140**	GSF	$5.00	$85,700
58	Plumbing; equipment, fixtures, piping	**17,140**	GSF	$14.00	$239,960
59	HVAC; equipment, ductwork, piping, controls	**17,140**	GSF	$30.00	$514,200
60	Electrical; equipment, lighting, power, low voltage	**17,140**	GSF	$25.00	$428,500
61	**New Building - Base Estimate Total (rounded)**	*17,140*	*GSF*	*$238.91*	**$4,095,000**
62					
63					
64	**NEW BUILDING - ADDITIONAL OPTION 1.**	5,000 GSF			
65	*Additional 5,000gsf full construction including program*				
66	Strip footing, foundation wall	**60**	LF	$255.00	$15,300
67	Slab on grade	**2,500**	SF	$10.00	$25,000
68	Steel framed structure	**28**	TNS	$3,750.00	$103,125
69	Upper floor plate metal deck, concrete topping	**2,500**	SF	$8.50	$21,250
70	Exterior wall cladding system, 20% masonry, 80% wood	**660**	SF	$55.00	$36,300
71	Aluminum glazed openings in exterior wall, 25% of total	**220**	SF	$95.00	$20,900
72	Asphalt shingle pitch roofing system, 5:12 pitch	**3,540**	SF	$20.00	$70,800
73	Interior partitions	**210**	LF	$125.00	$26,250
74	Interior door	**16**	LEAF	$1,500.00	$24,000
75	Flooring, wall and ceiling finishes	**5,000**	GSF	$6.09	$30,461
76	Millwork, casework, standing and running trim	**5,000**	GSF	$5.00	$25,000
77	Interior signage, fire extinguishers	**5,000**	GSF	$0.40	$2,000
78	Window shades, room darkening shades	**220**	SF	$10.00	$2,200
79	Fire sprinklers	**5,000**	GSF	$5.00	$25,000
80	HVAC; equipment, ductwork, piping, controls	**5,000**	GSF	$30.00	$150,000
81	Electrical; equipment, lighting, power, low voltage	**5,000**	GSF	$25.00	$125,000
82	**New Building - Additional Option 1. Total (rounded)**	*5,000*	*GSF*	*$140.60*	**$703,000**

AEDALUS

Falmouth Senior Center
School Admin. Building Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
83	**RENOVATION OF SCHOOL ADMIN. BUILDING**				
84	Reconfigure rooms, new paint, modify sprinklers	**14,000**	GSF	$7.50	$105,000
85	**Renovation Of School Admin. Building Total**				**$105,000**
86					
87					
88	**NEW SPORTS FIELD**				
89	Replace sports field in remote new location; softball	**1**	LS	$80,000.00	$80,000
90	**New Sports Field Total**				**$80,000**
91					
92					
93					
94	**Option 1. (Base Estimate)**				
95	*Additional 5,000gsf full construction including program*				
96	Direct trade costs as per School Admin. Building Option	**5,000**	GSF	$140.60	$703,000
97	Burdens and markups	**16%**		$703,000	$114,351
98	**Option 1. (Base Estimate) Total (rounded)**				**$817,000**
99					
100					
101	**Option 2.**				
102	*Additional 5,000gsf shell space only. Fit-out some time in the future*				
103	Strip footing, foundation wall	**60**	LF	$255.00	$15,300
104	Slab on grade	**2,500**	SF	$10.00	$25,000
105	Steel framed structure	**28**	TNS	$3,750.00	$103,125
106	Upper floor plate metal deck, concrete topping	**2,500**	SF	$8.50	$21,250
107	Exterior wall cladding system, 20% masonry, 80% wood	**660**	SF	$55.00	$36,300
108	Aluminum glazed openings in exterior wall, 25% of total	**220**	SF	$95.00	$20,900
109	Asphalt shingle pitch roofing system, 5:12 pitch	**3,540**	SF	$20.00	$70,800
110	Fire sprinklers	**5,000**	GSF	$5.00	$25,000
111	HVAC; temporary heat only	**5,000**	GSF	$5.00	$25,000
112	Electrical; life safety	**5,000**	GSF	$4.00	$20,000
113	Burdens and markups	**16%**		$362,675	$58,993
114	**Option 2. Total (rounded)**				**$422,000**
115					
116					
117	**Option 3.**				
118	*Additional 5,000gsf entirely as a future project*				
119	Direct trade costs as per School Admin. Building Option	**5,000**	GSF	$140.60	$703,000
120	Escalation; assume +5yrs	**25%**		$703,000	$175,750

AEDALUS

Falmouth Senior Center
School Admin. Building Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
121	Mobilize and demobilization	**1**	SET	$20,000.00	$20,000
122	Burdens and markups	**16%**		$898,750	$146,192
123	**Option 3. Total (rounded)**				**$1,045,000**
124					
125					

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Falmouth Senior Center
Brick Kiln Road Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
7	**SITEWORK**	200,000 GSF			
8					
9	Site prep, erosion control, temp fencing	**1**	LS	$50,000.00	$50,000
10	Strip site	**200,000**	SF	$0.25	$50,000
11	Bulk earthwork, cut/fills, grading	**200,000**	SF	$0.50	$100,000
12	New drop off, service driveway, parking	**75,000**	SF	$5.00	$375,000
13	Pedestrian sidewalk	**500**	SF	$7.50	$3,750
14	Curbing	**4,040**	LF	$20.00	$80,800
15	Parking space, crosswalk, directional markings	**100**	SP	$55.00	$5,500
16	ADA parking; sign, post, graphic painting, drop curb	**4**	SP	$325.00	$1,300
17	Site improvements, soft plantings	**115,495**	SF	$2.50	$288,738
18	New water service	**1**	LS	$40,000.00	$40,000
19	New sanitary drain system	**1**	LS	$30,000.00	$30,000
20	New storm water retention system	**75,000**	GSF	$5.00	$375,000
21	New site lighting	**9**	FIX	$5,000.00	$45,000
22	**Sitework Total (rounded)**				**$1,445,000**
23					
24					
25	**NEW BUILDING - BASE ESTIMATE**	16,115 GSF			
26					
27	Strip footing, foundation wall	**405**	LF	$255.00	$103,275
28	Slab on grade	**9,005**	SF	$10.00	$90,050
29	Elevator pit, waterproofing, pit ladder, hoist beam	**1**	EA	$25,000.00	$25,000
30	Steel framed structure	**89**	TNS	$3,750.00	$332,372
31	Upper floor plate metal deck, concrete topping	**7,110**	SF	$8.50	$60,435
32	Exterior wall cladding system, 20% masonry, 80% wood	**5,445**	SF	$55.00	$299,475
33	Aluminum glazed openings in exterior wall, 25% of total	**1,815**	SF	$95.00	$172,425
34	Entrance door, door operator	**2**	PR	$10,000.00	$20,000
35	Exterior egress door	**2**	LEAF	$2,000.00	$4,000
36	Asphalt shingle pitch roofing system, 5:12 pitch	**12,760**	SF	$20.00	$255,200
37	Monumental stair	**1**	FLT	$50,000.00	$50,000
38	Egress metal pan stair system, rubber flooring	**2**	FLT	$15,000.00	$30,000
39	Interior partitions	**1,900**	LF	$125.00	$237,500
40	Interior door	**49**	LEAF	$1,500.00	$73,500
41	Restrooms; tile flooring, tile wainscot, ACT ceiling	**1,280**	GSF	$30.00	$38,400
42	Kitchen; linoleum, FRP wainscot, ACT ceiling	**800**	GSF	$25.00	$20,000
43	Multipurpose; wood flooring, GWB ceiling	**3,000**	GSF	$25.00	$75,000
44	Game, Fitness, Workout; wood flooring, ACT ceiling	**3,400**	GSF	$20.00	$68,000

AEDALUS

Falmouth Senior Center
Brick Kiln Road Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
45	Remainder flooring, wall and ceiling finishes	**7,635**	GSF	$5.50	$42,010
46	Millwork, casework, standing and running trim	**16,115**	GSF	$5.00	$80,575
47	Folding acoustical partition	**40**	LF	$600.00	$24,000
48	Interior signage, fire extinguishers	**16,115**	GSF	$0.40	$6,446
49	Restroom compartments and toilet accessories	**1,280**	GSF	$11.50	$14,720
50	Projection screen; multipurpose, media, conference	**5**	EA	$1,500.00	$7,500
51	Kitchen food service equipment	**800**	GSF	$90.00	$72,000
52	Window shades, room darkening shades	**1,815**	SF	$10.00	$18,150
53	Elevator, 2 stop, 1 cab opening	**1**	EA	$85,000.00	$85,000
54	Fire sprinklers	**16,115**	GSF	$5.00	$80,575
55	Plumbing; equipment, fixtures, piping	**16,115**	GSF	$14.00	$225,610
56	HVAC; equipment, ductwork, piping, controls	**16,115**	GSF	$30.00	$483,450
57	Electrical; equipment, lighting, power, low voltage	**16,115**	GSF	$25.00	$402,875
58	**New Building - Base Estimate Total (rounded)**	*16,115*	*GSF*	*$217.06*	**$3,498,000**
59					
60					
61	**NEW BUILDING - ADDITIONAL OPTION 1.**				
62	As per School Admin Building	**1**	LS	$703,000.00	$703,000
63	**New Building - Additional Option 1. Total**				**$703,000**
64					
65					
66	**NEW SPORTS FIELD**				
67	Replace sports field in remote new location; soccer/lacrosse	**1**	LS	$75,000.00	$75,000
68	**New Sports Field Total**				**$75,000**
69					
70					
71					

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Falmouth Senior Center
Gifford Street Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
7	**SITEWORK**	140,000 GSF			
8					
9	Site prep, erosion control, temp fencing	**1**	LS	$50,000.00	$50,000
10	Strip site, grubbing	**140,000**	SF	$0.35	$49,000
11	Bulk earthwork, cut/fills, grading	**140,000**	SF	$0.50	$70,000
12	New drop off, service driveway, parking	**75,000**	SF	$5.00	$375,000
13	Pedestrian sidewalk	**2,250**	SF	$7.50	$16,875
14	Curbing	**3,200**	LF	$20.00	$64,000
15	Parking space, crosswalk, directional markings	**100**	SP	$55.00	$5,500
16	ADA parking; sign, post, graphic painting, drop curb	**5**	SP	$325.00	$1,625
17	Site improvements, soft plantings	**48,010**	SF	$2.50	$120,025
18	New water service	**1**	LS	$30,000.00	$30,000
19	New sanitary drain system	**1**	LS	$25,000.00	$25,000
20	New storm water retention system	**75,000**	GSF	$5.00	$375,000
21	New site lighting	**14**	FIX	$5,000.00	$70,000
22	**Sitework Total (rounded)**				**$1,252,000**
23					
24					
25	**NEW BUILDING - BASE ESTIMATE**	14,740 GSF			
26					
27	Strip footing, foundation wall	**620**	LF	$255.00	$158,100
28	Slab on grade	**14,740**	SF	$10.00	$147,400
29	Steel framed structure	**59**	TNS	$3,750.00	$221,100
30	Exterior wall cladding system, 20% masonry, 80% wood	**7,170**	SF	$55.00	$394,351
31	Aluminum glazed openings in exterior wall, 25% of total	**2,390**	SF	$95.00	$227,050
32	Entrance door, door operator	**1**	PR	$10,000.00	$10,000
33	Exterior egress door	**1**	LEAF	$2,000.00	$2,000
34	Asphalt shingle pitch roofing system, 5:12 pitch	**20,880**	SF	$20.00	$417,600
35	Interior partitions	**1,800**	LF	$125.00	$225,000
36	Interior door	**50**	LEAF	$1,500.00	$75,000
37	Restrooms; tile flooring, tile wainscot, ACT ceiling	**835**	GSF	$30.00	$25,050
38	Kitchen; linoleum, FRP wainscot, ACT ceiling	**840**	GSF	$25.00	$21,000
39	Multipurpose; wood flooring, GWB ceiling	**3,000**	GSF	$25.00	$75,000
40	Game, Fitness, Workout; wood flooring, ACT ceiling	**3,300**	GSF	$20.00	$66,000
41	Remainder flooring, wall and ceiling finishes	**6,765**	GSF	$5.30	$35,855
42	Millwork, casework, standing and running trim	**14,740**	GSF	$5.00	$73,700
43	Folding acoustical partition	**40**	LF	$600.00	$24,000
44	Interior signage, fire extinguishers	**14,740**	GSF	$0.40	$5,896

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Falmouth Senior Center
Gifford Street Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
45	Restroom compartments and toilet accessories	**835**	GSF	$15.00	$12,525
46	Projection screen; multipurpose, media, conference	**5**	EA	$1,500.00	$7,500
47	Kitchen food service equipment	**840**	GSF	$90.00	$75,600
48	Window shades, room darkening shades	**2,390**	SF	$10.00	$23,900
49	Fire sprinklers	**14,740**	GSF	$5.00	$73,700
50	Plumbing; equipment, fixtures, piping	**14,740**	GSF	$14.00	$206,360
51	HVAC; equipment, ductwork, piping, controls	**14,740**	GSF	$30.00	$442,200
52	Electrical; equipment, lighting, power, low voltage	**14,740**	GSF	$25.00	$368,500
53	**New Building - Base Estimate Total (rounded)**	*14,740*	*GSF*	*$231.61*	**$3,414,000**
54					
55					
56	**NEW BUILDING - ADDITIONAL OPTION 1.**	5,000 GSF			
57	*Additional 5,000gsf full construction including program*				
58	Strip footing, foundation wall	**90**	LF	$255.00	$22,950
59	Slab on grade	**5,000**	SF	$10.00	$50,000
60	Steel framed structure	**20**	TNS	$3,750.00	$75,000
61	Exterior wall cladding system, 20% masonry, 80% wood	**990**	SF	$55.00	$54,450
62	Aluminum glazed openings in exterior wall, 25% of total	**330**	SF	$95.00	$31,350
63	Interior partitions	**180**	LF	$125.00	$22,500
64	Interior door	**13**	LEAF	$1,500.00	$19,500
65	Flooring, wall and ceiling finishes	**5,000**	GSF	$5.30	$26,500
66	Millwork, casework, standing and running trim	**5,000**	GSF	$5.00	$25,000
67	Interior signage, fire extinguishers	**5,000**	GSF	$0.40	$2,000
68	Fire sprinklers	**5,000**	GSF	$5.00	$25,000
69	HVAC; equipment, ductwork, piping, controls	**5,000**	GSF	$30.00	$150,000
70	Electrical; equipment, lighting, power, low voltage	**5,000**	GSF	$25.00	$125,000
71	**New Building - Additional Option 1. Total (rounded)**	*5,000*	*GSF*	*$125.80*	**$629,000**
72					
73					
74	**NEW SPORTS FIELD**				
75	Replace sports field in remote new location; tennis courts	**1**	LS	$100,000.00	$100,000
76	**New Sports Field Total**				**$100,000**
77					
78					
79					
80					
81					
82					

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Falmouth Senior Center
Gifford Street Site

Building Direct Trade Cost Details

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	COST
83	**Option 1. (Base Estimate)**				
84	*Additional 5,000gsf full construction including program*				
85	Direct trade costs as per Gifford Street Option	**5,000**	GSF	$125.80	$629,000
86	Burdens and markups	**16%**		$629,000	$102,314
87	**Option 1. (Base Estimate) Total (rounded)**				**$731,000**
88					
89					
90	**Option 2.**				
91	*Additional 5,000gsf shell space only. Fit-out some time in the future*				
92	Strip footing, foundation wall	**90**	LF	$255.00	$22,950
93	Slab on grade	**5,000**	SF	$10.00	$50,000
94	Steel framed structure	**20**	TNS	$3,750.00	$75,000
95	Exterior wall cladding system, 20% masonry, 80% wood	**990**	SF	$55.00	$54,450
96	Aluminum glazed openings in exterior wall, 25% of total	**330**	SF	$95.00	$31,350
97	Fire sprinklers	**5,000**	GSF	$5.00	$25,000
98	HVAC; equipment, ductwork, piping, controls	**5,000**	GSF	$30.00	$150,000
99	Electrical; equipment, lighting, power, low voltage	**5,000**	GSF	$25.00	$125,000
100	Burdens and markups	**16%**		$533,750	$86,820
101	**Option 2. Total (rounded)**				**$621,000**
102					
103					
104	**Option 3.**				
105	*Additional 5,000gsf entirely as a future project*				
106	Direct trade costs as per Gifford Street Option	**5,000**	GSF	$125.80	$629,000
107	Escalation; assume +5yrs	**25%**		$629,000	$157,250
108	Mobilize and demobilization	**1**	SET	$20,000.00	$20,000
109	Burdens and markups	**16%**		$806,250	$131,146
110	**Option 3. Total (rounded)**				**$937,000**
111					
112					

OUTLINE SPECIFICATIONS

The outline specifications provided a basis of design to assist the cost estimator in developing costs for the alternative sites. The outline defines the level of finish and type of construction

DIVISION 2- SITEWORK

- Site preparation
- Earthwork
- Asphalt paving at vehicular roads, drives and parking areas
- Pavement markings
- Traffic and Pedestrian signage
- Precast concrete curbing
- Portland cement concrete sidewalks
- Domestic and fire protection water services
- Storm drainage system
- On-site rainwater recharge system below parking area
- Sanitary sewer connection
- Landscape grading
- Provide allowance for Plantings and Trees
- Provide allowance for bocce court and shuffleboard court
- Lawns
- Provide allowance for site Improvements including bicycle racks, benches and umbrellas.
- Outdoor patio using precast pavers

DIVISION 3 – CONCRETE

- Cast-in-place concrete
  - Footings (dewatering required at basement; see geotechnical report)
  - foundation walls
  - slabs
  - exterior pads
  - no basement provided

DIVISION 4 - MASONRY

- Architectural concrete block at building water table: Trenwyth Prairie Stone masonry blocks, 8 x 4 x 24″
- Architectural stone veneer: Eldorado Stone. Allow 400sf.

DIVISION 5 – METALS

- Structural steel
  - Wide flange sections at framed floors and roofs
  - HSS tube columns
  - HSS tube braces
- Metal joists
  - Sloped roofs
- Metal Deck
  - 1 1/2″ Type B at roofs
  - 3″ composite deck at framed slabs
- Cold Formed Metal Framing
  - - Exterior walls: 16 gage 6 inch minimum galvanized metal stud framing.
  - - Interior partitions: 22 gage 3 5/8 inch minimum galvanized metal stud framing
- Steel Finish
  - Primed
- Miscellaneous
  - Handrail and guardrail at second floor lobby
  - Stair baluster components

DIVISION 6 - WOOD AND PLASTICS AND COMPOSITES

- Rough Carpentry
  - Pressure treated blocking, cants, curbing
  - Fire retardant treated blocking
  - Fire retardant treated plywood roof sheathing
  - Fire retardant treated plywood wall sheathing
- Millwork
  - Custom wood cabinets with plastic laminate countertops at:
    - Reception
    - Kitchen to multipurpose room
    - Library/Reading Room

    shelving, assume 40 LF
  - Plastic laminate cabinets with solid plastic countertops at:
    - Art room, medical, copy area
    - Custom millwork cabinetry for kitchen.

    For counters assume 50% stainless steel, 50% solid plastic
- Exterior Wood
  - Wood sunscreens at east and west exterior walls
  - Wood trellis at garden

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

- Insulation
  - - Exterior Wall: Cellulose insulation full depth of stud cavity with 4″ continuous rigid insulation on exterior side of stud wall.

Stainless steel Z-clips for siding attachment.
- Roof Insulation: 6" tapered rigid roof insulation – Dow Styrofoam Deckmate Plus FA at flat roof
- Spray Polyurethane Insulation – Dow Styrofoam Spray Polyurethane Foam Insulation

- Exterior Wall Air/Vapor Barrier membranes
  - Air and Vapor Barrier: Spray applied air and vapor barrier membrane: Monsey Bakor Air-Bloc 32, Low VOC.
  - Air/Vapor barrier membrane flashing: Monsey Bakor Blueskin TWF
- Underslab vapor barrier: Stego Wrap 10 mil Class A Vapor Retarder
- Underslab radon ventilation system
- Roofing:
  - Asphalt shingle roofing, CertainTeed
  - Corporation "Classic Horizon", 30 year warranty, assume 75% of roof
  - Gutters at sloped roofs
  - EPDM fully adhered roofing at flat roofs, assume 25% of roof
  - Roof Hatches: Bilco
- Siding
  - Fiber cement horizontal lap siding: HardiePlank Lap siding, prefinished
  - Fiber cement panels: HardiePanel prefinished system. A combination of (assume 1/3 each) Board & batten, clapboard w/ trim
  - Trim: Hardie Trim for soffit locations
- Firestopping/ firesealing
- Joint sealants

  Tremco – Spectrem 3 silicone sealant for all general purpose joints

DIVISION 8 - OPENINGS

- Exterior Entrances
  - Exterior entry doors at lobby: EFCO Aluminum and glass framed entrance
  - Egress Exits other than lobby: 1¾" thick insulated hollow metal door with hollow metal welded frame.
- Interior Doors
  - Interior Swing Doors: 1 ¾" thick solid core wood door, stained
  - Interior program spaces and offices: wood stile and rail with glass panels.
  - Rated wood interior doors at stairs and restrooms.
  - Standard Heavy Duty Hollow metal doors with welded frames at service rooms such as janitors closet, elevator machine room, and mechanical rooms.
- Windows
  - Multi-purpose room, program spaces, offices, etc.: Clad wood windows by Anderson, casement operation, insulating glass.
  - Skylight: Over stair, aluminum frame with laminated insulating glass
- Hardware: Heavy Duty Mortise locksets with functions to match use. All locksets to have removable core system and high security key system equal to Schlage Primus, or equal.

DIVISION 9 – FINISHES

- Walls
  - Exterior Gypsum sheathing: Fiberglass faced gypsum sheathing, "Dens-Glas" or equal.
  - Interior walls: 5/8" Gypsum wallboard at all dry locations. 5/8" moisture resistant GWB at all wet walls, extending to the ceiling.
  - Ceramic tile wainscot in toilet rooms, full height at wet walls.
- Ceilings
  - GWB soffits and acoustical ceiling tile in Lobby, corridors: "Techzone Optima" by Armstrong
  - 2' x 2' narrow line acoustical tile in offices, Multi-purpose room, toilet rooms and program spaces
- Flooring
  - Sealed concrete at storage, mechanical rooms.
  - Wood athletic flooring at Fitness room.
  - Porcelain tile in Lobby, 1st floor corridor, treads at corridor stair
  - Ceramic mosaic tile in bathrooms
  - Solid wood at Multipurpose room
  - Quarry tile at kitchen, pantry, receiving
  - Carpet at 2nd floor corridor and offices, allow $50/sy installed.
  - Luxury Vinyl Plank at other program spaces, minimum .020" wear layer
  - Recessed walk off mat at entry vestibule –

Mats Inc., Grate Grid

- Painting
  Standard low VOC, such as Benjamin Moore & Co.:

DIVISION 10 - SPECIALTIES

- Solid Plastic Toilet and Shower Compartments: Comtec, Santana, or equal, overhead braced
- Aluminum Louvers with factory finished Kynar coating
- Interior room signage and code required signage
- Provide for 1 exterior building name sign
- Portable fire extinguishers and recessed cabinets
- Toilet and bath accessories equal to Bradley, Bobrick, or ASI
- Operable partitions at the multi-purpose room: Modernfold

DIVISION 11 - EQUIPMENT

- Food Service Equipment
  - Commercial cooking and dishwashing equipment including, but not limited to:
  - Open burner range with griddle and convection oven base
  - Exhaust Ventilator and fire suppression system
  - Three compartment wash sink
  - Ventless dish machine with booster heater; cold water tempering
  - Hot food wells (group of three) and breath guard
  - Walk-in refrigerator/freezer
  - Work table

DIVISION 12 – FURNISHINGS (not used)

DIVISION 14 – CONVEYING EQUIPMENT

- Gearless traction, machine room- less passenger elevator

OUTLINE SPECIFICATIONS

This engineering narrative defined mechanical, electrical, plumbing and life safety issues for the prupose of assisting the cost estimate with establishing relative costs for the options.

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Falmouth Senior Center September 14, 2015

The cost estimate for the Falmouth Senior Center will include an HVAC system based on the Mitsubishi VRF System utilizing the two pipe CitiMulti system. The units will be of the Heat Recovery type and will be air cooled. The outdoor air cooled units will consist of two Mitsubishi PURY-P216 units 208/3/60. The units will be located on a flat portion of the roof. The indoor systems will be comprised of approximately 26 fan coil units. Condensate piping shall be Type M copper insulated with 1" ASJ fiberglass pipe insulation with sealed butt joints. The units will be provided with a communicating type control system by the manufacturer.

Fresh air will be provided by an energy recovery unit. The energy recovery unit will be provided with heating and cooling and shall utilize the toilet exhaust as the energy recovery exhaust air stream. The toilet room exhaust will be ducted up to the energy recovery unit and then out of the building through a louver. Fresh air will be drawn in through a louver and ducted to the ERV. The fresh air will be heated or cooled to maintain discharge air at 70°F during winter operation and 58°F during summer operation. The supply air fan of the ERV will be provided with a variable speed drive to allow the modulation of the supply air quantity. Fresh air will be distributed throughout the building based on the occupancy of the spaces. The fresh air distribution system will be provided with two position dampers for each room. The dampers will be controlled by the VRF system in coordination with the delivery of cooling and heating to the spaces. The ERV shall be a Greenheck Model ERCH-20M-15 with a four row chilled water/hot water coil. The unit will have a modulating energy recovery wheel, MERV 8 exhaust filters and MERV 14 supply air filters. All fan motors will be premium efficiency.

Cooling and heating for the ERV unit and heat for the indirect hot water heater will be provided by a gas fired air to water heat pump. The air to air heat pump unit will be a four ton Robur GAHP-AR. The circulated fluid through the water to air heat pump will be 30% propylene glycol. The fluid will be pumped with a Grundfos UP 26-96F wet rotor circulator located in the attic. There will be a small thermal expansion tank connected to the heating/cooling loop. The loop will be pressurized with an Axiom Industries MF-200 glycol feeder.

The kitchen will be provided with a kitchen exhaust fan on the roof. The exhaust fan will discharge horizontally to a louver adjacent to the toilet exhaust louver. The exhaust fan will be a Greenheck 12-BISW-41 with a two speed motor. The kitchen exhaust hood shall be connected to the exhaust fan by welded black iron ductwork. The exhaust shall be ducted to the louver with welded black iron ductwork. The exhaust ductwork shall be provided with access doors per the requirements of the mechanical code and NFPA 96.

The kitchen will be provided with a make up air unit with a hot water heating coil. The hot water heating coil will be provided with heat from the gas fired water to air heat pump. The make up air unit shall be a Greenheck MSX-108-H-12 with a two speed motor, capable of providing 1000 CFM of tempered air at high speed. The air rise shall be 65°F. The unit shall be located in the attic. The outdoor air intake will be from a louver adjacent to the ERV intake louver in the gable end of the attic.

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Falmouth Senior Center September 14, 2015

PLUMBING

1. DOMESTIC WATER HEATING
   - A) Domestic hot water supply for the kitchen area and janitor's closet will be provided by an indirectly fired Weil McLain Plus 80 tank type water heater with HVAC provided heat source.
   - B) The domestic hot water production for the men's and women's lavatories will be accomplished through the use of four Eemax model EX120TCML units. Units will be installed on the wall, beneath the fixtures they serve
   - C) The domestic hot water production for the staff lavatories will be accomplished through the use of two Eemax model SP3012 units. Units will be installed on the wall, beneath the fixtures they serve.

2. PLUMBING FIXTURES
   - A) All toilets shall be high efficiency, elongated wall hung, 1.28 GPF, with 1.28 GPF electronically actuated flush valves.
   - B) All lavatory faucets shall be high efficiency, 0.5 GPM, electronically actuated sensor type.
   - C) Urinals shall be waterless
   - D) All kitchen faucets shall be 2.5 GPM, single handle.
   - E) Kitchen sinks shall be Elkay GECR3321, 20 guage stainless steel, with rear offset strainers.
   - F) Provide (6) non-freeze type wall hydrants equal to Jay R. Smith Fig. 5610, 3/4 inch inlet, vacuum breaker, bronze construction.

3. WATER DISTRIBUTION SYSTEM
   - A) Each plumbing fixture group will be capable of isolation by means of a ball valve located in the lower level mechanical space. The manifold system will allow service to be performed to plumbing systems in specific areas of the building without having to disturb water supply to other areas.

4. PIPE AND MATERIALS
   - A) All above ground storm and sanitary drainage piping 2" and larger shall be no-hub cast iron with rubber gaskets and mechanical couplings. 1 ½" and smaller piping shall be DWV type copper.
   - B) If sub-slab storm or sanitary drainage piping is required, piping shall be service weight cast iron, bell and spigot, rubber gasket joints, coated on exterior.
   - C) All water piping shall be insulated type L copper tubing; all insulation shall be 1/2 inch thick, fibrous glass, sectional pipe insulation with a white flame retardant vapor barrier jacket covering all pipe insulation.

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D) All gas piping shall be standard weight threaded black steel pipe, Schedule 40, Grade B, with malleable steel fittings.

5. SERVICE SIZES
   A) The domestic water service size will be 2".
   B) The sanitary building drain size will be 4".
   C) The natural gas service size will be 1 ½".

FIRE PROTECTION

1. The building will be equipped with a wet pipe sprinkler system throughout.
2. Recessed type sprinkler heads shall be used in finished ceiling areas.
3. Upright heads shall be used in unfinished areas.
4. Provide necessary sprinklers in attic space as required by NFPA 13.
5. The building will require a 6" water service to supply the sprinkler piping. A fire pump will not be required.

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Falmouth Senior Center September 14, 2015

1. Project Electrical Requirements
   A) Power Distribution System
      1) The electrical system voltage will be 208Y120, three phase, four-wire, 60 Hz. The new service entrance switchgear will be located in the basement. The switchgear will feed two branch panels on each floor (for lighting and general power), one panel for the kitchen equipment, one panel for the computer lab and another equipment panel located in the basement.
         a) All power intensive equipment including mechanical and elevator equipment will be chosen to operate at 208 volts, 3-phase (if available at that voltage)
         b) All equipment will be located in Electrical/Mechanical rooms or closets with no public access
      2) All new panels should have copper bussing, be NEMA-1 and be manufactured by Siemens, Square "D" or Eaton. All circuits shall be clearly identified at panelboards with typed circuit schedules. All other electrical equipment shall be labeled with white engraved with black lettering laminated nameplates.
      3) Refer to the attached riser diagram for anticipated panel sizes (based on presently available load data).

   B) Lighting and Lighting Controls
      A. Lighting Systems: Generally, lighting performance and criteria shall be based upon energy conservation, visual comfort, controlled brightness and functional use of the given space.
      1) LED lighting systems with dimming ballasts shall be utilized throughout this facility unless noted otherwise. Indirect lighting will be used except in the corridors and other spaces where direct lighting is more conducive to the space application. Light fixtures will include (but not be limited to): troffers (direct and indirect), recessed can lights, wall sconces, linear pendants, task lighting, low-wall LED lights. The primary goal in lamping choice and luminaire layout will be to maintain IESNA lighting standards while meeting the 780 CMR and the Core Performance Requirements as outlined by Eversource.
      2) Emergency and exit lighting shall be provided in all corridors and areas considered as means of egress. Generally, selected emergency battery pack fixtures will be used for ease of maintenance and aesthetics in accordance with NFPA 70 and NFPA 101.
      3) Exit lights shall be LED type with battery back-up.
      4) Lighting intensities shall be based upon Illuminating Engineering Society
      5) All occupancy sensors and switches shall be ultrasonic type. Ceiling mounted sensors with manual wall toggle switch over-ride shall be installed in all areas over 600 square feet. Wall mounted switch-type sensors shall be installed in offices, storage, meeting rooms and vestibules. Manual switches (with no corresponding occupancy sensor) are to be installed in Electrical and Mechanical rooms only.

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6) A simple, programmable lighting control panel with low voltage switches shall be incorporated into the design to control the site/exterior lighting.

C) General Power and Grounding

A. Wiring systems shall be in accordance with the National Electrical Code. All wiring shall be in an approved raceway. All wiring and raceway shall be concealed except in mechanical/electrical rooms. Minimum wire size shall be #12. Wiring shall be color coded per the National Electric Code. All wiring and other electrical work shall be done in a neat workmanlike manner and the Contractor shall keep their portion of work clean and orderly. Conductors unless noted otherwise shall be rated at 600 volts, based upon an ambient temperature of 86 degrees Fahrenheit and generally as follows:
   a) Material: Copper only.
   b) Type: Single or Multi-Conductor THHN.
   c) Branch circuits shall have dedicated neutral and ground conductors.

2) Commercial grade wiring shall be used with the type of wire/raceway to match the application. MC cable is acceptable for interior branch circuits (20 amps) only.

3) All interior devices shall be commercial grade and rated for 20 amps.

4) All equipment requiring power shall be powered from the nearest panel. Work shall coordinate with that of other trades to minimize conflicts and eliminate interferences. Equipment installed outdoors shall be Nema-3R rated and devices shall be equipped with weather-proof covers listed for exterior use. All electrically powered equipment shall be equipped with local disconnects (provided by the Electrical Contractor).

5) Devices shall be located as follows:
   a) Offices: 4 power outlets; 1 tele/data outlet
   b) Toilets: 1 GFCI outlet
   c) Corridors: 1 outlet every 30'
   d) Conference and Meeting rooms: 5 outlets including one floor box; 2 tele/data outlets
   e) Classroom/Program Space: 7 power outlets; 3 tele/data outlets
   f) Other areas are to have outlets as needed such as Computer Lab, Kitchen, Multi-purpose, etc. – refer to the plans for the exact space types

6) Grounding shall be per Article 250 of the National Electrical Code 2014 and shall include the electrical systems ground, equipment grounding and all auxiliary systems grounding such that all systems and components maintain low potential differences.

D) Fire Alarm

A. The fire alarm system shall be an addressable, electrically supervised, intelligent, annunciated fire alarm and detection system located in conditioned space adjacent to the telecommunications hub. Devices (notification and initiating) shall be located per 780 CMR and NFPA 72. Carbon monoxide detectors shall be installed on each floor and be wired to the fire alarm control panel (each detector shall be individually homerun).

B. A fire fighter radio / bi-directional amplifier system shall be included.

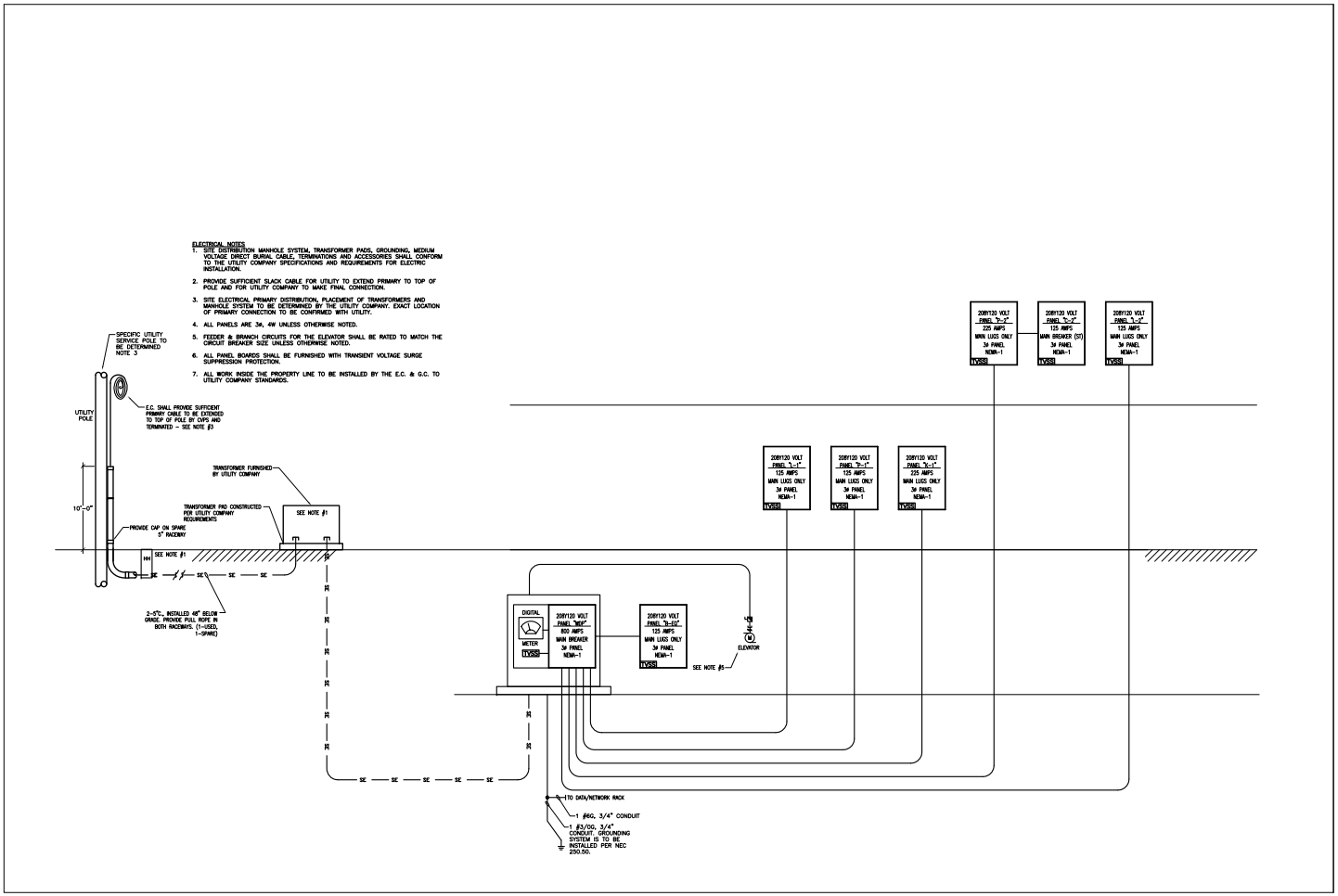
1) Sequence of Operation: When a fire alarm condition is detected and reported by one of the system initiating devices, the following functions will immediately occur:

   a) Cause system notification appliances to operate.
   b) Cause elevator to go into "Recall" mode of operation
   c) Indicate device in alarm at control pane LCD display.
   d) Indicate device in alarm on remote annunciator LCD display
   e) Initiate off-site alarm notification system.

2) The security system (if Owner required) is provided and installed by others.

E) Auxiliary (Low Voltage) Systems

A. Data/Telephone/CATV System: A system of terminal backboards, cabinets, outlets, conduits, etc. shall be provided with:
   a) Backboards & Cabinets installed by the Contractor
   b) Conduits to accessible ceiling space, Cable tray/J-hooks, Outlets & Device Plates installed by Contractor.
   c) Wiring System furnished & installed by others.
   d) Equipment furnished and installed by others.



No	Date	Revision

Allied Consulting Engineering Services, Inc.
215 Boston Post Road, Sudbury, MA
Tel: (978) 443-7702
Fax: (978) 443-4688

RISER DIAGRAM - PROPOSED

FALMOUTH SENIOR CENTER

Drawing Title: ELECTRICAL Riser Diagram A
Date: 09/14/15
Scale: N.T.S.
Project No.: -

E-1

SECTION 6
OPERATIONS ANALYSIS

Ballard*King and Associates completed an operational cost analysis for the Falmouth Senior Center. Staffing levels and operational hours are based upon industry standards and best practices. During discussions with the Council on Aging it was mentioned that the Falmouth Senior Center currently benefits from volunteers and they believe that they will continue to have a large volunteer base which would help to reduce the salary cost shown here. The expenses laid out in the report are not a guarantee but rather estimates based on the size of the facility, specific components of the facility and hours of operation. These estimates do not take into account the benefits of volunteers.

Operational Cost Range for New Senior Center

(Rounded figures used)

	Existing Cost	Additional Cost	Total Cost
Expenses	$35,000	$103,000	$138,000
Salaries	$202,000	$284,000	$486,000
Total	$237,000	$387,000	$624,000

Costs area stated before Falmouth adjustments to staffing levels to account for volunteer and include cost of a building proctor to use facility after hours

Operational Cost Analysis

IMPACT OF ADDITIONAL SPACE ON THE OPERATIONAL BUDGET

Category: Contractual	Existing Cost	Additional Cost	Total Cost
Gas / Electric	$5,450	$52,500	$57,950
Water / Sewer	-	$3,500	$3,500
Advertising	-	$5,000	$5,000
Communications	$2,100	$6,000	$8,100
Trash Removal	-	$3,500	$3,500
Insurance	-	$5,000	$5,000
Other: Dues / Memberships	$2,170	$1,500	$3,670
Volunteer / Elderly Services	$1,000	$0	$1,000
	$10,720	$77,000	$87,720

Category: Commodities	Existing Cost	Additional Cost	Total Cost
Office Supplies	$1,125	$3,000	$4,125
Maintenance / Repair Materials	$2,500	$5,000	$7,500
Janitorial Supplies	-	$6,000	$6,000
Rec. Program Supplies	-	$2,500	$2,500
Food / Meals on Wheels	$15,000	$5,000	$20,000
Uniforms	-	$1,500	$1,500
Printing / Postage	$4,700	$2,000	$6,700
Other: Travel	$1,000	$1,000	$2,000
	$24,325	$26,000	$50,325

Category: Salaries		Existing Wages	Additional Wages	Total Cost
FT	COA Director	$86,486	-	$86,486
PT	Outreach Coordinator	$24,367	-	$24,367
FT	Mini Bus Driver	$44,970	-	$44,970
PT	Admin. Assistant	$45,903	-	$45,903
FT	Program Coordinator	-	$58,500	$58,500
FT	Maintenance Worker	-	$52,000	$52,000
PT	Front Desk	-	$43,988	$43,988
PT	Fitness Attendant	-	$16,891	$16,891
PT	Kitchen Staff	-	$61,583	$61,583
PT	Computer Lab Attendant	-	$17,595	$17,595
PT	Building Attendant	-	-	-
PT	General Instructor I	-	$19,872	$19,872
PT	General Instructor II	-	$13,248	$13,248
		$201,726	$283,677	$485,403
	TOTAL	**$236,771**	**$386,677**	**$623,448**

Notes:

1 Existing Cost is as reported on Town of Falmouth Budget Expense Report for July 2015, FY 2016

2 "Additional Cost is the cost incurred for the additional 15,000 sf of space as estimated by Ballard King Associates based on typical peer facilities

3 "Total Cost" is a summation of existing and additions cost and represents a project of the total operating cost assuming the baseline existing costs do not escalate.

4 The above projections do not include contingency. The Town should determine an appropriate level of contingency.

5 The above costs are stated or projected as FY2016 costs. Escalation to the expected date of operations will be required.

6 The above costs do not include State contributions to the Falmouth Senior Center for staffing or expenses.

BALLARD*KING & ASSOCIATES LTD
Recreation Facility Planning and Operation Consultants

Falmouth Senior Center Operations Analysis
September 28, 2015

The operations analysis represents a conservative approach to estimating expenses and was completed based on the best information available and a basic understanding of the project. There is no guarantee that the expense and revenue projections outlined in the operations analysis will be met as there are many variables that affect such estimates that either cannot be accurately measured or are subject to change during the actual budgetary process.

Expenditures
Expenditures have been formulated on the costs that were designated by the consultant to be included in the operating budget for the expansion of the Falmouth Senior Center. The figures are based on the size of the expansion, the specific components of the facility, and the hours of operation. All expenses were calculated to the high side and the actual cost may be less based on the final design, operational philosophy, and programming considerations adopted by staff.

Operation Cost Model:

Category	Senior Center Budget
Personnel	
Full-time	$ 110,500
Part-time	$ 173,176
Total	$ 283,676

*Ballard*King and Associates is committed to comprehensive planning and operations consulting services, providing for the effective and efficient use of available resources to develop and operate sports, recreation and wellness facilities.*

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BALLARD*KING & ASSOCIATES LTD
Recreation Facility Planning and Operation Consultants

Category	Senior Center Budget
Contractual	
Utilities (gas & elect)	$ 52,500
Water/sewer	$ 3,500
Advertising	$ 5,000
Communications	$ 6,000
Trash Removal	$ 3,500
Insurance	$ 5,000
Others	$ 1,500
Total	$ 77,000

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Category	Senior Center Budget
Commodities	
Office Supplies	$ 3,500
Maint/repair materials	$ 5,000
Janitorial supplies	$ 6,000
Program supplies	$ 2,500
Food Supplies[1]	$ 5,000
Uniforms/Laundry	$ 1,500
Printing/postage	$ 2,000
Other	$ 1,000
Total	$ 26,500

SUMMARY OF ADDITIONAL EXPENSES

Personnel Expenses	$ 283,676
Contractual Expenses	$ 77,000
Commodity Expenses	$26,000
Grand Total	**$ 386,676 Additional Cost**

[1] Food service costs will be supplemented by government feeding program support.

BALLARD*KING & ASSOCIATES LTD
Recreation Facility Planning and Operation Consultants

Staffing levels:

Positions	Senior Center Budget
Full-Time	
Program Coordinator	$ 45,000
Maintenance Worker	$ 40,000
Salaries	$ 85,000
Benefits (30% of salaries)	$ 25,500
Total Full-Time Personnel	$110,500

Note: Pay rates were determined based on the market conditions in Falmouth. The positions listed are necessary to ensure adequate staffing and provide for a full-time staff member presence during all open hours of the facility. The wage scales for both the full-time and part-time staff positions reflect estimated wages for 2016.

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Positions	Hours	Senior Center Budget
Part-Time		
Front desk ($10.00/hr)	75 hrs/wk	$ 38,250
Fitness Attendant ($12.00/hr)	24 hrs/wk	$ 14,688
Kitchen Staff ($10.00/hr)	105 hrs/wk	$ 53,550
Computer Lab Attendant ($10.00/hr)	30 hrs/wk	$ 15,300
Building Attendant ($11.00/hr)	00 hrs/wk	$ 0
Delete per Town of Falmouth		
Program Instructors		
General Instructor 1		$ 17,280
General Instructor 2		$ 11,520
Salaries		$ 150,588
Benefits (15% of part-time wages)		$ 22,588
Total Part-Time Salaries		$ 173,176

This operational pro-forma was completed based on the best information available and a basic understanding of the project. However, there is no guarantee that the expense and revenue projections outlined above will be met as there are many variables that affect such estimates, weather included, that either cannot be accurately measured or are not consistent in their influence on the budgetary process.

Part-Time Staff Hours

Time	Hours	Staff	Days	Total Hours/Wk
Fitness Attendant				
Mon-Sat				
9:00am – 1:00pm	4	1	6	24

BALLARD*KING & ASSOCIATES LTD
Recreation Facility Planning and Operation Consultants

Total				24 hrs
Front Desk				
Mon-Fri				
8:00am – 8:00pm	12	1	5	60
Saturday				
9am – 6pm	9	1	1	9
Sunday				
Noon – 6pm	6	1	1	6
Total				75 hrs
Kitchen Staff				
Mon-Fri				
8am -3pm	7	3	5	105 hrs
Computer Lab				
Mon-Sat				
9:00am – 2:00pm	6	1	5	30 hrs

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Building Attendant

Mon-Fri				
3:00pm – 9:00pm	6	1	5	30
Saturday				
9am- 7pm	10	1	1	10
Sunday				
Noon – 6pm	6	1	1	6
Total				46 hrs

Program Staff Cost

Fitness

Type	Games/hrs	Weeks	Rate	Cost
Aerobics	12	48	$30.00/hr	$ 17,280

General

Type	Hrs/wk	Weeks	Rate	Cost
Dance	4	48	$15.00/hr	$ 2,880
Arts/Crafts	8	48	$15.00/hr	$ 5,760
Senior Classes	4	48	$15.00/hr	$ 2880
Total				$11,520

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SECTION 7
APPENDIX

The goal of this meeting is to convey initial findings in order to narrow down the original four sites to those that are truly viable.

These sites will then receive the phase 2 detailed analysis which includes detailed site plans and cost estimates.

The phase 1 analysis was undertaken by architects, planners, civil engineers and traffic engineers.

The phase 1 analysis was undertaken by architects, planners, civil engineers and traffic engineers.

Coastal Engineering, Civil Engineers

PARE Engineering, Traffic and Parking

bh+a, architecture, programming and planning

The phase 2 analysis will additionally involve

Ballard*King, *Operational Planning*

DG Jones International, *Cost Estimating*

A FEW PARAMETERS

These parameters will be expanded upon during Phase 2

- The building will be between 15,000 and 20,000 square feet
- The site should allow for future expansion
- Parking should allow for between 100 and 150 cars
- Certain special events may require additional parking
- The building may be one or two stories
- There will be a covered drop-off area

RECOMMENDED PARKING FOR SITES

Potential Location	Nearby Residential Areas	Access to Transit	Nearby Over-flow Parking	Estimated Parking Needs
Falmouth High School	No nearby densely populated residential areas.	None.	High School parking lots provide substantial overflow parking options for all sites excluding the Old Campus Drive Location.	75 to 125 spaces Old Campus Drive – 150 to 200 spaces
Gus Canty Community Center	Yes. Residential neighbors within 1 mile to the south and east.	Direct Access to WHOOSH. SeaLine access at Falmouth Mall (approx. ¾ mile walk)	Gus Canty Community Center parking lot adjacent to potential building location can serve as a combined/overflow parking area.	60 to 100 spaces
School Administration Building	Yes. Residential neighborhoods are located	Access to WHOOSH and SeaLine at Falmouth Mall (approx. ¾ mile)	School Administration Parking Lot can serve overflow parking.	100 to 125 spaces
Brick Kiln Road	No nearby densely populated residential areas.	None.	Falmouth Dog Park could serve overflow parking (approx. 25 spaces)	150 to 175 spaces

PARKING COMPARISON TO OTHER TOWNS

Town	Building Size (square feet)	Parking Spaces
Belmont	18,000	63
Franklin	16,000	90
Mashpee	11,000	150
Milford	16,000	72
Needham	20,000	75

PHASE 1 PRESENTATION

FACTORS ANALYZED FOR EACH SITE

Zoning & Dimensional Data
Natural Site Conditions
Environmental Conservation
Hazardous Materials
Permitting Issues
Site Access
Emergency Vehicle Access
Parking
Utilities
Capacity for Expansion
Abutters
Adjacencies
Easements & Restrictions
Impact on existing Use
Impact on existing buildings
Shared Use Possibility
Location
View Corridors
Constructability
Single or Multi-Level
Other Outdoor Activities
Intergenerational Opportunities
Sustainability
Operational Considerations
Ancillary Benefits
Cost

SITE COST DRIVERS

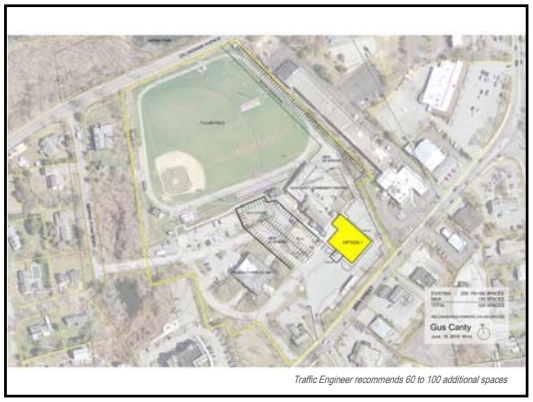
Demolition
Topography
Soil Type
Water Table
Wetlands
Storm Water / Drainage
Utilities Construction Access
One Story, Two Story
"Built-in's" to enable Expansion
Hazardous Materials
Driveways and Access
Structured Parking
Collateral improvements

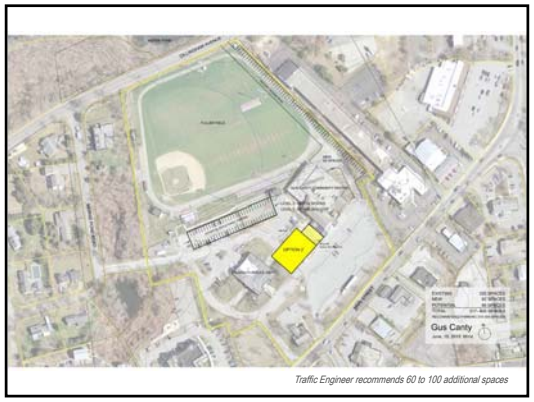
Teaticket Site
School Administration Building Location

Brick Kiln Road Site
Current PAL Building adjacent to Dog Park

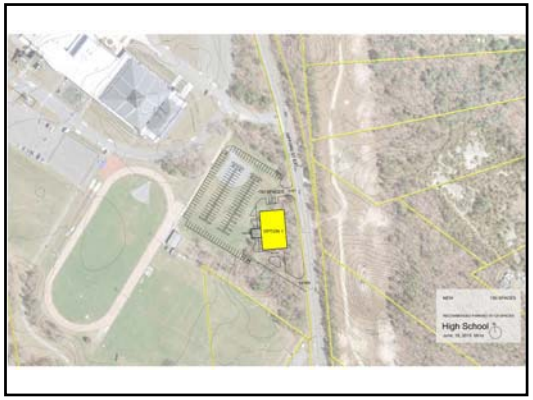
Gus Canty Community Center Site
adjacent to Police Station and Fuller Field

PHASE 1 PRESENTATION

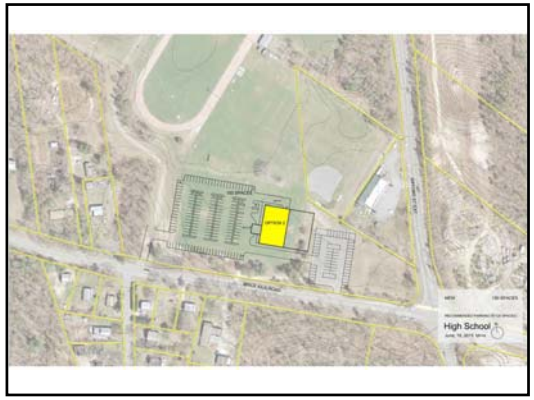




Various site options at the High School property at Brick Kiln Road and Gifford Street Extension


High School


High School


High School


High School


High School

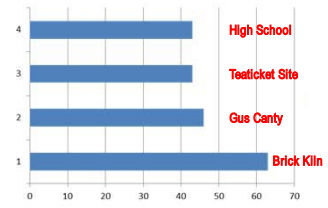
Evaluation

	Factor	Brick Kiln	Gus Canty	High School	Teaticket Site	Description
1	Site Area	4	3	1	2	site is sufficient for building and expansion
2	One Story Option	3	4	1	2	is the site large enough for a one story building
3	Location (proximity)	1	3	1	3	evaluates location within greater Falmouth
4	Access by other than car	3	1	3	2	pedestrian, bike, public transit
5	Visibility of building	3	1	4	1	is building visible from public way
6	Timing	4	2	1	2	are other factors impeding ability to proceed
7	Traffic	1	4	2	3	ranks traffic surrounding site
8	Traffic Access & Egress	2	4	1	3	entry and exit into the site from road
9	Parking	4	1	2	3	amount of parking
10	Proximity of Parking	1	4	1	1	location of parking relative to building
11	Overflow Parking	4	1	2	3	ability to handle special events
12	Requires Land Purchase	4	1	1	1	does Town own the land
13	Deed Restriction	4	1	1	1	is use of the property in some way restricted
14	Sewer	4	1	3	2	sewer connection at site
15	Typography	1	4	2	2	grade change for building or parking lot
16	Soils		neutral			soil suitable for typical foundations
17	Water Table		neutral			abnormal water table considerations impact constructability
18	Environmental		neutral			environmental considerations that may prevent development
	Wetland		near by			
	Flood Plain		near by			
	Vernal Pool		none			none found at any site
	Habitat restrictions		none			none found at any site
	Hazardous Materials		neutral			study hazmat in existing buildings in phase 2
19	Site Construction Cost	4	3	2	1	does the site impact the construction cost
	Building Demolition	x				
	Septic System	x				
20	Collateral Costs	4	3	2	1	are there other expenses required to make this site viable
	Field Replacement			x	x	replace fields at high school and school admin sites
	Replace Basketball Court		x			replace basketball court at Gus Canty
	Relocate Playground		x			replace playground at Gus Canty
	Relocate School Admin				x	relocate school administration for reuse option
21	Collateral Benefits	3	1	4	2	does development on the site spur create other benefits
22	Multi-Generational	4	1	2	3	ability to interact with other age groups
23	Other Outdoor Activities	1	2	4	3	is the site near other outdoor activites (present or future)
24	Other Indoor Activities	4	1	3	2	is the site near or connected to other indoor activities
	Score	65	46	43	43	

SITE RANKING

Sum of all **equally weighted** factors: lowest score is best

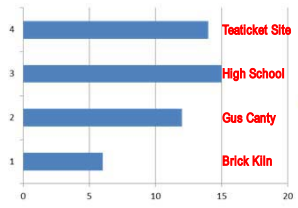
	Brick Kiln	Gus Canty	High School	Teaticket Site
Score	65	46	43	43



SITE RANKING:

Most Passing Scores: higher score is better

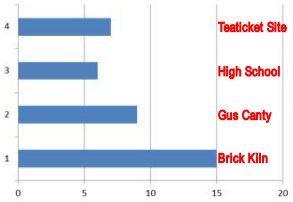
	Brick Kiln	Gus Canty	High School	Teaticket Site
Number of 1's	6	10	8	6
Number of 2's	1	2	7	8
	6	12	15	14



SITE RANKING

Most Failing Scores: lower score is better

	Brick Kiln	Gus Canty	High School	Teaticket Site
Number of 3's	4	4	3	7
Number of 4's	11	5	3	0
	15	9	6	7



SITE RANKING

Most positive scores compared to fewest negative scores

MOST PASSING GRADES

High School (15)
Teaticket (14)
Gus Canty (12)
Brick Kiln (6)

FEWEST FAILING GRADES

High School (6)
Teaticket (7)
Gus Canty (9)
Brick Kiln (15)

SITE SELECTION

Reasons to pursue a site

HIGH SCHOOL Field Hockey Site is free of overlap with high school activity and has access to future outdoor trails and activities

TEATICKET Study as an addition or new building

GUS CANTY Opportunity to improve the site master plan with a new activity

SITE SELECTION
Reasons not to pursue a site

HIGH SCHOOL	None
TEATICKET	None
GUS CANTY	Traffic, Collateral Costs
BRICK KILN	Too Small, Collateral Costs

PHASE 2 STUDY
Sites RECOMMENDED for the next level of study

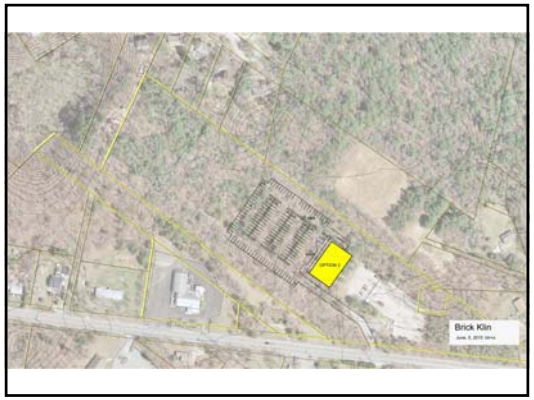
HIGH SCHOOL

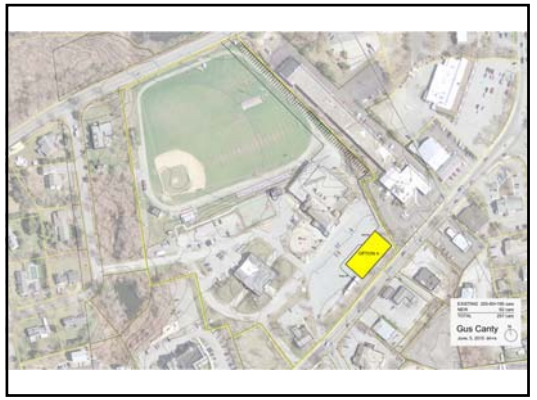
TEATICKET

GUS CANTY

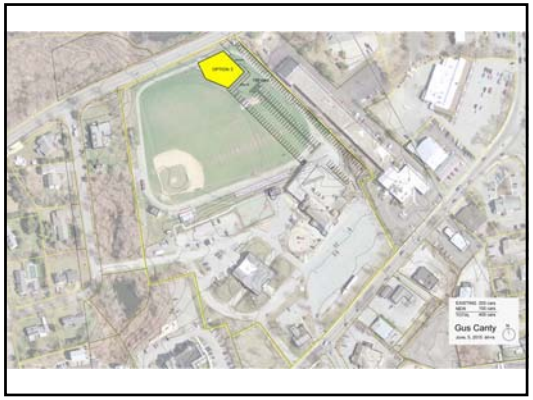
Appendix

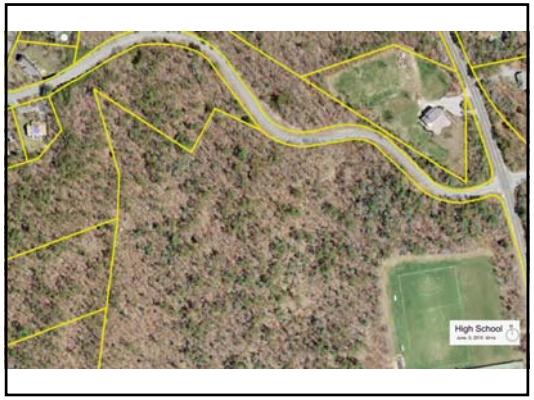
Options not Considered

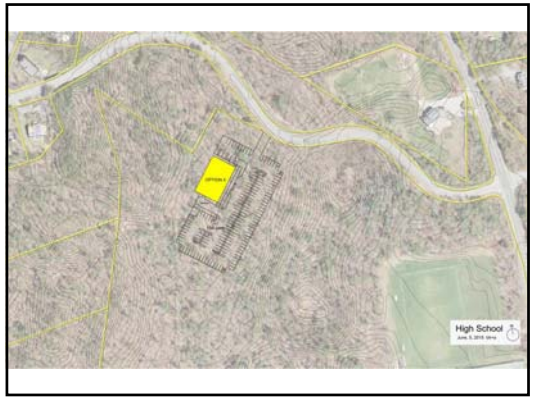


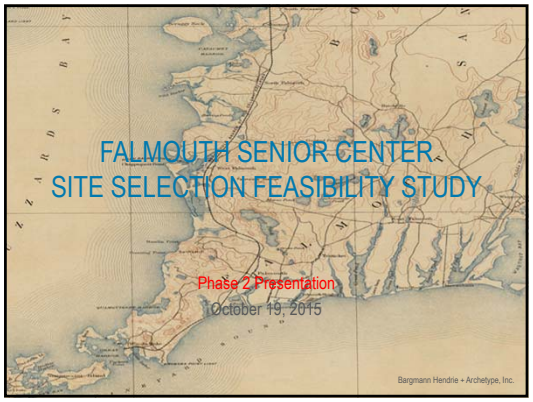


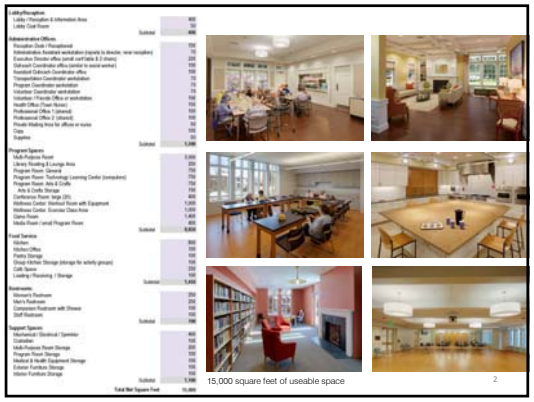
PHASE 1 PRESENTATION



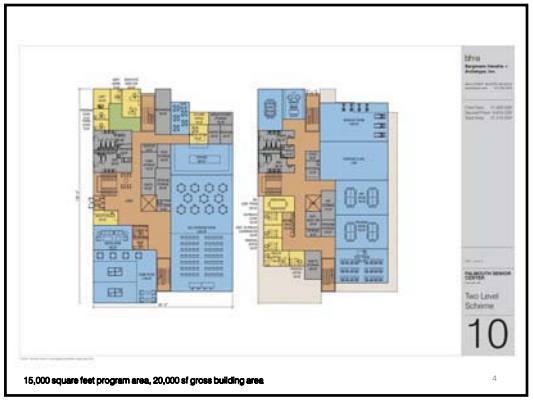


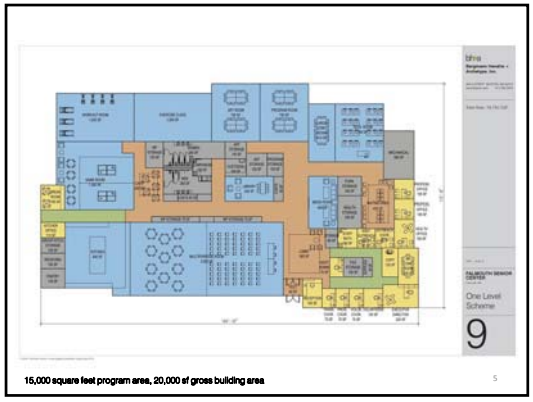


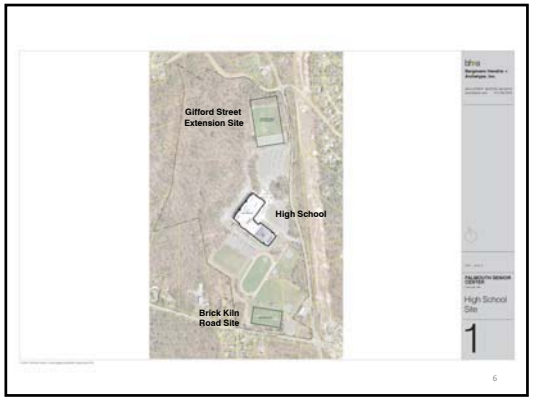

FALMOUTH SENIOR CENTER
SITE SELECTION FEASIBILITY STUDY
Phase 2 Presentation
October 19, 2015
Bargmann Hendrie + Archetype, Inc.


15,000 square feet of useable space
2

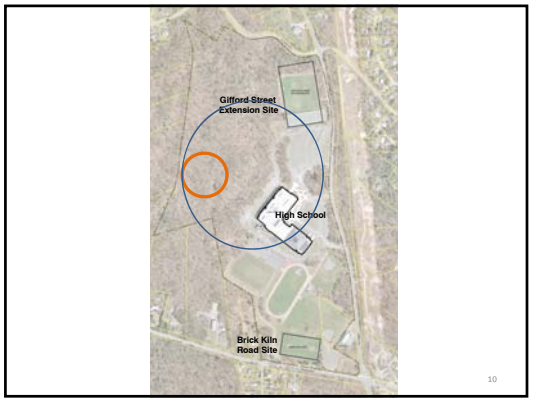

37,000 sf Falmouth Public Library
20,000 sf two story senior center
14,000 sf Teaticket School
22,000 sf one story senior center
20,000 sf Falmouth Town Hall

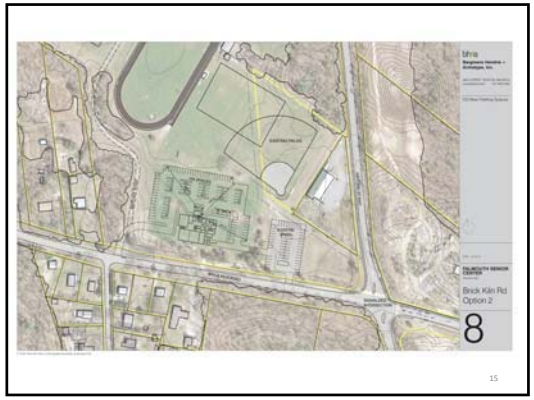

Two Level Scheme
10
15,000 square feet program area, 20,000 sf gross building area
4


One Level Scheme
9
15,000 square feet program area, 20,000 sf gross building area
5


Gifford Street Extension Site
High School
Brick Kiln Road Site
High School Site
1
6

PHASE 2 PRESENTATION





High School Site Use Assumptions

- School Facilities are not available for use during the school day
- Fields will need to be replaced as part of the Senior Center project
- Natural Turf sports field requires one year for grass to take before it can be played on
- Gifford Street Extension field is a dual natural turf field designed to allow alternating use from season to season

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School Administration

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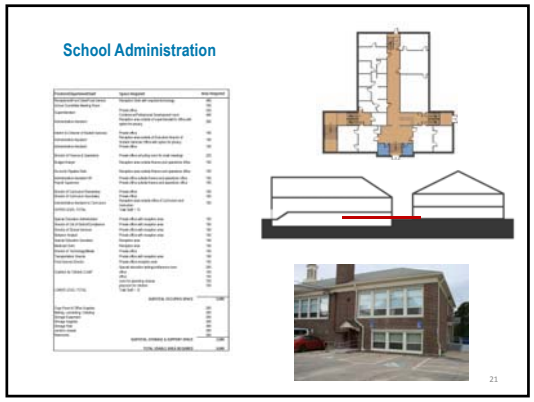
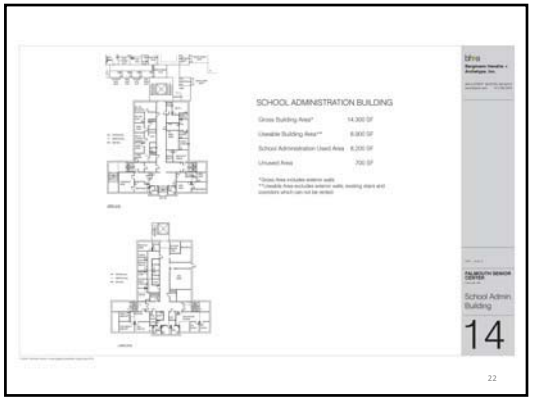
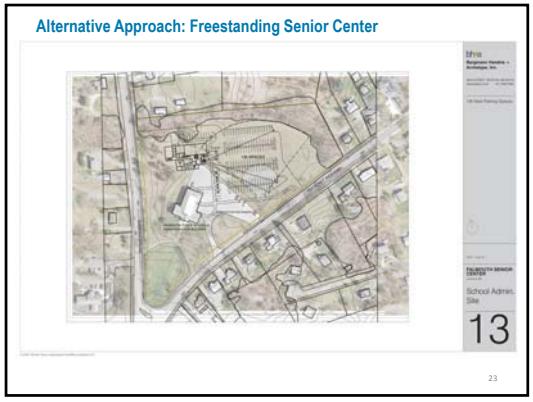
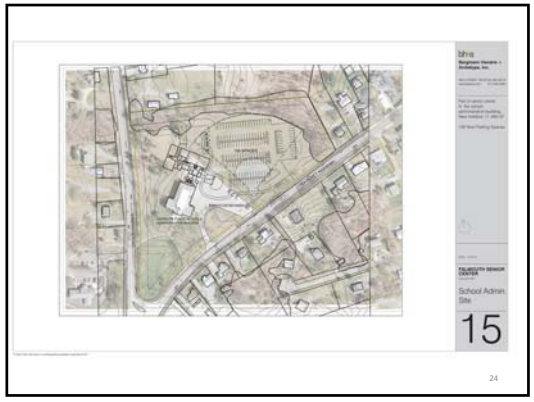
PHASE 2 PRESENTATION









Senior Center Space Utilization using Administration Building

There is 8,900 sf of useable area in the building requiring an addition of 8,500 sf +/- to house Senior Center spaces and make the building accessible to the disabled

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Traffic

Conclusions

The gap study conducted indicated that all potential driveway locations will have more than sufficient number of gaps per hour to accommodate the anticipated movements into and out of the proposed Falmouth Senior Center. However, the location along Gifford Street Extension (Option 1a) has the greatest average gap length, which may be more conducive to elderly drivers.

The crash data reviewed from the Town of Falmouth Police Department for the study areas indicated a lower than average frequency of crashes on the roadway segments adjacent to the proposed site driveways. However, having a greater volume of daily traffic, the roadways adjacent to the administration building (Option 2) experience a greater number of incidents per year than those adjacent to the high school property (Options 1a and 1b). All of the incidents reviewed were of low severity in nature.

The available stopping sight distances from the proposed site entrances exceed the AASHTO requirements for the selected design speeds on the roads adjacent to each potential site, with the exception of the driveway to be located on the west side of Gifford Street Extension (Option 1a).

Though the LOS of movements out of a proposed driveway on Teaticket Highway (Option 2) are slightly lower than along the roadways adjacent to the high school property (Options 1a and 1b), they are still well within the acceptable range of A to D.

The final component that should be considered in the selection for the expanded Falmouth Senior Center is the character of the area surrounding the potential sites. The high school property (Options 1a and 1b) is more remote, with a natural and spacey residential surrounding. The administration building property (Option 2) is located near the town center, with both transit service and increased walkability.

Table 12 provides a direct comparison of the pros and cons associated with each potential location.

Table 12: Site Comparison

Criteria	High School North - Option 1a	High School South - Option 1b	Admin Building - Option 2
	Ranking		
Adequate Gaps	Y	Y	Y
Safe Roadways	Y	Y	Y
Adequate Sight Distance	N	Y	Y
Acceptable Level of Service	Y	Y	Y
Nearby Accommodations	N	N	Y

The three sites being considered are all viable options. The only concern worth noting is the limited sight distance available at the proposed driveway for the high school Option 1a along Gifford Street Extension.

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Cost Ranges

Construction Cost

Total Project Cost

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Total Project Cost

- Construction
- Consultants
- Furniture
- Equipment
- Environmental
- Permitting Issues
- Legal
- Moving
- Printing
- Contingency

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Cost Ranges

	Construction Cost Cost in Millions	**Total Project** Cost Cost in Millions
School Administration 1 **As Stand Alone**, Includes field replacement	$ 6.8 - 7.5	$ 8.8 - 9.5
HS Gifford Street Extension Includes field replacement	$ 7.0 - 7.5	$ 9.0 - 9.5
HS Brick Kiln Road Includes field replacement	$ 7.2 - 7.7	$ 9.2 – 9.7
School Administration 2 **As addition with renovation** of existing building, Includes new field	$ 8.8 - 9.3	$ 10.8 - 11.3

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Why is the Renovation option more costly?

Make building accessible without going outside, create accessible entry, sprinklers, interior finishes, Code compliance, restroom upgrades, building wide HVAC, parking lot and other items

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Operational Cost

OPERATIONAL COST ANALYSIS: IMPACT OF ADDITIONAL SPACE ON THE OPERATIONAL BUDGET

Category: Contractual	Existing Cost	Additional Cost	Total Cost
Gas / Electric	$5,450	$52,500	$57,950
Water / Sewer	-	$3,500	$3,500
Advertising	-	$5,000	$5,000
Communications	$2,100	$6,000	$8,100
Trash Removal	-	$3,500	$3,500
Insurance	-	$5,000	$5,000
Other: Dues / Memberships	$2,170	$1,500	$3,670
Volunteer / Elderly Services	$1,000	$0	$1,000
	$10,720	$77,000	$87,720
Category: Commodities	**Existing Cost**	**Additional Cost**	**Total Cost**
Office Supplies	$1,125	$3,000	$4,125
Maintenance / Repair Materials	$2,500	$5,000	$7,500
Janitorial Supplies	-	$6,000	$6,000
Rec. Program Supplies	-	$2,500	$2,500
Food / Meals on Wheels	$15,000	$5,000	$20,000
Uniforms	-	$1,500	$1,500
Printing / Postage	$4,700	$2,000	$6,700
Other: Travel	$1,000	$1,000	$2,000
	$24,325	$26,000	$50,325
Category: Salaries	**Existing Wages**	**Additional Wages**	**Total Cost**
FT COA Director	$86,486	-	$86,486
PT Outreach Coordinator	$24,367	-	$24,367
FT Mini Bus Driver	$44,970	-	$44,970
PT Admin. Assistant	$45,903	-	$45,903
FT Program Coordinator	-	$58,500	$58,500
FT Maintenance Worker	-	$52,000	$52,000
PT Front Desk	-	$43,988	$43,988
PT Fitness Attendant	-	$16,891	$16,891
PT Kitchen Staff	-	$61,583	$61,583
PT Computer Lab Attendant	-	$17,595	$17,595
PT Building Attendant	-	-	-
PT General Instructor I	-	$19,872	$19,872
PT General Instructor II	-	$13,248	$13,248
	$201,726	$283,677	$485,403
TOTAL	**$236,771**	**$386,677**	**$623,448**

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Operational Cost Range for New Senior Center

Rounded figures used

	Existing Cost	**Additional Cost**	Total Cost
Expenses	$ 35,000	$ 103,000	$ 138,000
Salaries	$ 202,000	$ 284,000	$ 486,000
Total	$ 237,000	$ 387,000	$ 624,000

Costs area stated before Falmouth adjustments to staffing levels to account for volunteer and include cost of a building proctor to use facility after hours

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