

**CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2012-2013 THROUGH 2016-2017
ITEM/PROJECT DESCRIPTION FORM**

REQUESTING DEPARTMENT: Fire and Rescue - Ocean Rescue	PROJECT TITLE: Lifeguard Staffing Increase										
<p>PROJECT DESCRIPTION: This proposal recommends an increase of five lifeguard stands, all associated equipment and relevant seasonal staffing to provide efficient public education, prevention, surveillance, and emergency response to Nags Head beach patrons. The deployment of these new resources would be phased in, one stand per year over the next five years, to help close gaps in oceanfront observation and work to achieve overlapping visual coverage. Nags Head Ocean Rescue lifeguard stand locations are recommended in the following locations, prioritized in order of implementation and budget year.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">1) Limulus Street</td> <td style="width: 30%;">FY 2012 - 2013</td> </tr> <tr> <td>2) Baltic Street</td> <td>FY 2013 - 2014</td> </tr> <tr> <td>3) Town Hall Beach Access</td> <td>FY 2014 - 2015</td> </tr> <tr> <td>4) Huron Street</td> <td>FY 2015 - 2016</td> </tr> <tr> <td>5) Indigo Street</td> <td>FY 2016 - 2017</td> </tr> </table>		1) Limulus Street	FY 2012 - 2013	2) Baltic Street	FY 2013 - 2014	3) Town Hall Beach Access	FY 2014 - 2015	4) Huron Street	FY 2015 - 2016	5) Indigo Street	FY 2016 - 2017
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5) Indigo Street	FY 2016 - 2017										
<p>PROJECT JUSTIFICATION: (What need is being met: Where is this documented: How does this project address the need?) Nags Head Ocean Rescue has the enormous seasonal responsibility of protecting people from harm and preventing tragedies on eleven miles of challenging oceanfront. The Nags Head Ocean Rescue program is characterized by face-to-face prevention efforts to educate patrons, maintenance of an observational system to recognize and respond to emergencies in a timely fashion, and treatment and evacuation of injured persons in a professional and expeditious manner. While this proposal's primary goal is to prevent aquatic accidents, increasing the number of visible lifeguards can also have positive effects on tourism and publicly prioritize a commitment to beach safety in Nags Head.</p> <p>The United States Lifesaving Association promulgates the only national certification for ocean lifeguard services in the United States, and they do not recommend minimum staffing levels. These are "left to be determined on a local level according to a wide variety of factors". USLA espouses deployment of enough lifeguards at a beach to prevent drowning, regardless of fluctuations in beach attendance and water hazards (rough surf, dangerous marine life, strong currents). USLA suggests that organizations utilize an overlapping water observation and backup system to survey the beach for new hazards and likewise recognize historically significant danger spots.</p> <p>Onsite protection and water observation are critical to lifeguard efficiency. Often rescuers have but a short timeframe from recognizing a hazard, to response and reaching the victim, completing the rescue, and taking appropriate medical action. Per Chris Brewster, President, USLA, "Rarely do people in distress wave or call for help, being too busy trying to keep themselves afloat, thus, lifeguard vigilance is of key importance to spot the person and respond before this becomes a drowning."</p> <p>It is clear that beach visitation, a most frequented activity, is growing in Nags Head. If we expect this trend of increased visitation to continue, and we anticipate more available beach areas for patrons to occupy, appropriate staffing levels should correspondingly rise to address the growth by increasing patron safety and decreasing the Town's liability exposure.</p> <p>In closing, this proposal encourages the Town Nags Head to gradually establish overlapping water rescue resources, which will increase our ability to effectively survey the waterfront and maintain visitor safety</p>											

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through education, prevention and rescue efforts. The proposed locations recognize observational gaps in lifeguard coverage and identify areas where beach patrons are likely to congregate and are at increased risk.

LOCATION OF PROJECT: (Attach a map if applicable)

Recommended locations:

- | | |
|---------------------------|----------------|
| 1) Limulus Street | FY 2012 - 2013 |
| 2) Baltic Street | FY 2013 - 2014 |
| 3) Town Hall Beach Access | FY 2014 - 2015 |
| 4) Huron Street | FY 2015 - 2016 |
| 5) Indigo Street | FY 2016 - 2017 |

DEPARTMENT PRIORITY: (Choose One)

Does the requested project:

- | | |
|--------------|--|
| _____ | a) Correct an unsatisfactory level of service? |
| _____ | b) Maintain a current level of service? |
| <u> X </u> | c) Increase a level of service? |
| _____ | d) Represent a "vision"? |

DEPARTMENTAL RANK: (Prioritize your request in relation to other departmental project request)

 1 of 3

PAST ACTION: (Choose one)

Is the requested project currently scheduled for implementation:

Yes _____

No X

If yes, what year? _____

PROJECT ALTERNATIVES:

1. Explore alternative options for utilizing existing staff, stagger staff schedules and locations to accommodate high hazard times, redeploy stationary stands, and increase the number of roving ATV patrols and water resources to respond to requests for assistance.
2. Explore a trained lifeguard "reserve" program that utilizes voluntary participation and can provide some of the necessary staffing.
3. Cross train and certify firefighters as lifeguards to deepen staff resources and availability. Assign a "Water Safety Officer" whose primary responsibilities are focused on drowning prevention.

PROJECT DEPENDENCY:

Funding and availability of lifeguard candidates.

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NEGATIVE IMPACTS:

Direct costs of increased level of service, administrative and supervisory burdens to existing staff, and increased number of exposures to employee injuries and subsequent costs.

OTHER CONSIDERATIONS:

Lifeguard staff is paid hourly, are seasonal, do not qualify for regular employee benefits, and leave Town service in the fall of each year.

On the beach our statistics show a steady increase in beach population, educational advisories, and rescue activity over the last several years. On busy days, it does not take long to overwhelm our current operation, leaving no available resources to respond.

ADDITIONAL FUNDING SOURCES:

Are there grants or additional funds which might be used in conjunction with the CIP to fund this project:

Yes _____

No _____

If yes, describe:

Federal EMS related grants might be researched and used to obtain necessary medical equipment for lifeguard staff. Lifeguard stands might be financially "sponsored", similar to the beach access cleanup program, by local organizations in return for some small recognition.

ESTIMATED COSTS

Capital/ One Time Costs	Description of Capital/One Time Costs – One Guard	Cost
Lifeguard stand (each)	Materials - Wood, Nails, Advisory Sign	\$ 800
Lifeguard equipment per stand	Med-kit, Rescue Can, Umbrella	300
Hand Held Radio per stand	800MHz 2500xtsI	3,000
TOTAL Capital (One Time Costs)		\$ 4,100
Continuing Annual Operating Costs	Description of Continuing Annual Operating Costs (A)	
Lifeguard uniform/LG	Shorts, Suit, T-shirt, Pants, Jacket, Hat, Fins, etc	\$ 350
TOTAL A (Continuing Annual Operating Costs)		\$ 350
Salary (If Additional Personnel Needed)	Description of Salary (B)	
Lifeguard	147 hrs training + Physical Training + In-service x \$11.50*	\$ 1,691
	Approx. 101 (9hr) days (memorial through labor) x \$11.50*	10,454
	FICA 7.65%	929
TOTAL B (Salary if Additional Personnel Needed)		\$ 13,074
TOTAL ANNUAL COSTS (A+B)		\$ 13,424

YEAR REQUESTED: Multi year

PRIORITY RECOMMENDATION:
(By CIP Committee)

*\$11.50 would be the pay rate of a lifeguard with 2 years experience.

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REQUESTING DEPARTMENT: Fire and Rescue	PROJECT TITLE: Replacement Thermal Imaging Camera
PROJECT DESCRIPTION: This request replaces one ISG Talisman K-90 Thermal Imaging Camera presently used on Engine 16. This camera was purchased in 2002, has been in service for 10 years, and saved physical property from unnecessary overhaul and damage. It is out of any warranty protection, and due to the damaging conditions it is exposed to, a candidate for future failure.	
PROJECT JUSTIFICATION: (What need is being met: Where is this documented: How does this project address the need?) Nags Head Fire and Rescue currently uses a thermal imaging camera system during fire operations to identify items/individuals that display ambient heat. By allowing firefighters the ability to see in dark, dense smoke filled environments, this technology makes firefighting faster and safer. Thermal imaging technology has improved and units are now more compact and user friendly. This project places in service a unit with increased reliability as compared with the older ISG Talisman K-90. The existing unit is out of warranty and repair costs are significant – nearly \$3000 was spent for restoring the camera to service in FY 2011 - 2012. The unit is 10 years old, is subject to failure and needs to be replaced with newer technology.	
LOCATION OF PROJECT: (Attach a map if applicable) Fire Station 16	
DEPARTMENT PRIORITY: (Choose One) Does the requested project: _____ a) Correct an unsatisfactory level of service? <u> X </u> b) Maintain a current level of service? _____ c) Increase a level of service? _____ d) Represent a "vision"?	
DEPARTMENTAL RANK: (Prioritize your request in relation to other departmental project request) <u> 2 </u> of <u> 3 </u>	
PAST ACTION: (Choose one) Is the requested project currently scheduled for implementation: Yes _____ No <u> X </u> If yes, what year? _____	

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PROJECT ALTERNATIVES: In case of thermal imaging equipment failure, expend regular budget funds, or identify emergency funding for repair or replacement of unit.													
PROJECT DEPENDENCY: Funding													
NEGATIVE IMPACTS: High initial cost													
OTHER CONSIDERATIONS: If replaced, the decommissioned unit may be sold at public auction and proceeds used to supplement purchase of a new unit.													
ADDITIONAL FUNDING SOURCES: Are there grants or additional funds which might be used in conjunction with the CIP to fund this project: Yes <input checked="" type="checkbox"/> _____ No <input type="checkbox"/> _____ If yes, describe: FEMA Assistance to Firefighter Grants may fund such an acquisition.													
ESTIMATED COSTS													
Capital/ One Time Costs	<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:60%;">Description of Capital/One Time Costs</th> <th style="width:20%;"></th> <th style="width:20%; text-align: right;">Cost</th> </tr> </thead> <tbody> <tr> <td>Thermal Imaging Camera</td> <td style="text-align: right;">\$</td> <td style="text-align: right;">11,000</td> </tr> <tr> <td colspan="2" style="text-align: right;">TOTAL Capital (One Time Costs)</td> <td style="text-align: right;">\$ 11,000</td> </tr> </tbody> </table>	Description of Capital/One Time Costs		Cost	Thermal Imaging Camera	\$	11,000	TOTAL Capital (One Time Costs)		\$ 11,000			
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Description of Salary (B)													
	\$	0											
TOTAL B (Salary if Additional Personnel Needed)		\$ 0											
TOTAL ANNUAL COSTS (A+B)		\$ 300											
YEAR REQUESTED: FY 2012 - 2013	PRIORITY RECOMMENDATION: (By CIP Committee)												

**CAPITAL IMPROVEMENT PROGRAM
FISCAL YEAR 2012-2013 THROUGH 2016-2017
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REQUESTING DEPARTMENT: Fire and Rescue	PROJECT TITLE: Aerial Truck Replacement
PROJECT DESCRIPTION:	
<p>This project requests the acquisition of a modern "Quint" aerial fire apparatus to provide general fire suppression, occupant rescue from multistory facilities, and extrication of victims from automobile accidents. This apparatus would replace the 1987 ladder truck currently located at Station 16, which was previously deferred from the FY 2008 - 2009 replacement schedule and is currently in a service-life extension status.</p> <p>Fleet maintenance personnel have done an excellent job addressing the 24-year-old ladder truck's mechanical issues and fire staff maintains the unit in a clean, exercised and ready state. In recent years, critical failures of the hydraulic system and significant expense obtaining replacement parts indicate its useful service life is ending. Additionally, changes in recognized safety standards and improvements in fire apparatus technology, combined with the challenges of replacement equipment can literally make the unit near obsolete.</p> <p>Replacement of this apparatus with a modern, enclosed cab, heavy-duty aerial device, integrated fire pump and water tank, and pre-piped waterway will help mitigate dangerous emergency operations and make them much safer for fire fighters and the community. Additionally, a new unit will help the Town maintain the NC Fire "Class 4" rating, for fire insurance purposes.</p>	
PROJECT JUSTIFICATION: (What need is being met: Where is this documented: How does this project address the need?)	
<p>The current apparatus will not meet current NFPA 1901, Annex D recommended safety standards. Our ladder truck is designed with an open rear cab for fire fighters. This configuration was discontinued in the early 1990's due to numerous deaths associated with fire fighters falling or thrown from the open cabs. NFPA standard 1901 suggests that older apparatus such as this be retired or upgraded to meet the current safety standards.</p> <p>Twenty-four years of emergency use in a corrosive environment can be hard on any municipal service vehicle. Our ladder truck is manifesting the effects of this exposure and was out of service due to mechanical malfunctions nearly 100 days this past year. Costs involved in maintaining the unit have increased throughout the years, and parts are becoming increasingly expensive and hard to find due to the reduced need for local suppliers to carry obsolete replacement equipment. Hydraulic cylinders operate the ladder and outriggers - this is likely the weak link of apparatus maintenance and specialty parts are available only from the factory. These components can cost in excess of \$20,000 each and anticipated parts/labor prices might likely exceed the current value of the apparatus. In the past, re-built cylinders have been installed as an interim cost saving measure; however, this fails to deliver the necessary reliability and longevity we need.</p> <p>Nags Head Fleet Maintenance mechanics spend many staff hours working on frequent aerial apparatus problems, subsequently taking them away from other vital equipment repairs in town. While aerial repairs are completed, the burden of aerial truck availability and response shifts to Kill Devil Hills or Roanoke Island Fire Departments, who graciously provide this protection. It is unclear how much longer this extra-ordinary benevolence will last, however we appreciate their assistance and try to reciprocate when able. Unfortunately, Nags Head is much less capable of returning the favor when neighboring departments need help.</p> <p>The original intent of the 1987 light-duty ladder truck was to introduce an elevated passageway from which firefighters would perform victim rescue from multi-story buildings, such as the seven story Comfort Inn</p>	

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South. The current aerial device utilizes an outdated water delivery system requiring an additional fire engine and hose connected nozzle clamped on the ladder tip. This design is only capable of flowing 600 gallons of water per minute and the flow cannot be successfully directed remotely. Any commercial structure with heavy fire involvement requires flows in the 1,000-1,500 gallon per minute range to provide effective fire suppression. Modern aerial fire apparatus are equipped with a fire pump, an integral waterway and water supply. A master fire stream is operated remotely and provides increased scene safety while keeping firefighters farther from the fire.

In closing, the acquisition of a modern "Quint" aerial apparatus will respond first out on all fire calls and provide Nags Head firefighters with a versatile tool capable of immediate facility rescues, advanced ventilation, quickly deployed fire streams, and extrication of entangled victims.

LOCATION OF PROJECT: (Attach a map if applicable)

The replacement aerial apparatus will house at Fire Station 16 and deliver services to the entire town.

DEPARTMENT PRIORITY: (Choose One)

Does the requested project:

- a) Correct an unsatisfactory level of service?
- b) Maintain a current level of service?
- c) Increase a level of service?
- d) Represent a "vision"?

DEPARTMENTAL RANK: (Prioritize your request in relation to other departmental project request)

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PAST ACTION: (Choose one)

Is the requested project currently scheduled for implementation:

Yes

No

If yes, what year? _____

PROJECT ALTERNATIVES:

1) Continue to extend the service life of the existing aerial apparatus indefinitely; maintaining the vehicle, replacing components as needed and accommodating the cost. Nags Head Fire Department is employing this strategy now and is addressing routine aerial apparatus needs in the regular budget. Service interruptions are common and expected.

2) Refurbish the existing light duty apparatus and create compliance with recognized safety standards for similar apparatus. Replacement of the ladder unit and crew cab, and transition to a tandem rear axle are required to accommodate this project. Due to the extensive retrofit necessary, such an endeavor might cost in excess of \$500,000 and will not provide an equitable cost versus life expectancy ratio. Refurbishment of the existing apparatus is not recommended for this reason.

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3) Purchase a newer, used apparatus of a modern design. This would meet all required vehicle safety standards, accommodate all operational requirements of the department and may even carry a limited warranty. Research indicates that a suitable late model aerial fire apparatus market exists and an ample supply of used aerial equipment is available nationwide. If properly maintained, the purchase of a previously used aerial device can deliver satisfactory service to a second owner. Before purchase, it is recommended that an independent apparatus survey contractor evaluate pre-owned equipment for deficiencies. Despite this tool, equipment reliability is uncertain and unexpected mechanical issues may develop. Expect to finance a modern used aerial apparatus for an estimated \$300,000 to \$500,000. This alternative is a satisfactory option and project dependent, may conserve appreciative municipal funds, and produce an excellent outcome.

4) Purchase a new "Demonstration" aerial apparatus. Demos highlight a manufacturer's product and these vehicles often travel to regional fire departments for review and display. Demos meet all required vehicle safety standards and accommodate all operational requirements of the department. Demos carry a full manufacturer warranty. Additional incentives for demo purchase might be attractive manufacturer financing, service maintenance agreements, and annually required service for reduced or no fee. This alternative is a satisfactory option and project dependent, may conserve appreciative municipal funds, and produce an excellent outcome.

5) Lease a new or lightly used aerial apparatus. Leased aerial apparatus meet all required vehicle safety standards, accommodates all operational requirements of the department, is less expensive than purchase, provides a trial use period, and potentially frees up municipal resources for other purposes. Nags Head can fulfill the lease agreement and then separate from obsolete or substandard equipment. Disadvantages include no aerial apparatus ownership and the immediate absence of the equipment when the lease expires. This alternative is a satisfactory option, may conserve appreciative municipal funds, and produce an excellent outcome as opposed to a new vehicle purchase.

6) Purchase a brand new modern aerial apparatus. New apparatus meet all required vehicle safety standards and accommodate all operational requirements of the department. Manufacturer engineering and design technicians specifically configure vehicle form and function to satisfy special owner requirements or existing accessory equipment, as needed. New apparatus carry a full manufacturer warranty, may offer attractive manufacturer financing, service maintenance agreements, and annually required service for reduced or no fee. This alternative is a satisfactory option and Nags Head owns the vehicle. While this has the potential to most completely satisfy our aerial apparatus needs, it is also the most expensive option and could cost \$ 700,000, excluding accessory equipment.

PROJECT DEPENDENCY:

- 1) Project dependent on initial funding availability and consistency of future revenue streams.
- 2) Project dependent on continued reliability of current aerial apparatus and urgency of expected replacement.

NEGATIVE IMPACTS:

Substantial expense of replacement aerial apparatus.

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OTHER CONSIDERATIONS:

Some additional funding might be obtained from the sale of our current aerial apparatus. According to Brindlee Mountain Fire Apparatus, a very small market for open cab fire apparatus exists today due to safety concerns and the challenge of replacement parts; their opinion was that our ladder truck 'sestimated value was \$25,000-30,000.

ADDITIONAL FUNDING SOURCES:

Are there grants or additional funds which might be used in conjunction with the CIP to fund this project:

Yes _____

No _____

If yes, describe:

In 2011, the Town applied for aerial apparatus funding via FEMA "Assistance to Firefighters" grant. The project was not selected for funding; however nothing precludes the organization from submitting future grant applications.

ESTIMATED COSTS

Capital/ One Time Costs	Description of Capital/One Time Costs	Cost
	Cost to replace the ladder truck with a new "Quint" apparatus	\$ 700,000
	Cost to replace ladder truck accessory equipment	50,000
	TOTAL Capital (One Time Costs)	\$ 750,000
Continuing Annual Operating Costs	Description of Continuing Annual Operating Costs (A)	
	Maintenance and ladder testing	\$ 3,000
	TOTAL A (Continuing Annual Operating Costs)	\$ 3,000
Salary (If Additional Personnel Needed)	Description of Salary (B)	
		\$ 0
	TOTAL B (Salary if Additional Personnel Needed)	\$ 0
	TOTAL ANNUAL COSTS (A+B)	\$ 3,000

YEAR REQUESTED: FY
FY 2012 - 2013

PRIORITY RECOMMENDATION:
(By CIP Committee)