

*Study for Alternative Uses*

# Wickford Elementary School

## *Building Code Feasibility Study*



*November 9, 2005*





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### Wickford Elementary School Overview

The Wickford Elementary School is located at 99 Phillips Street in the heart of the Wickford Historic District. The building is located on Lot 109 found in Assessors Plat 116. Lot 109 contains approximately 6.06 acres of land with approximately 730 feet of frontage. The original school was constructed in 1907 and in 1948 an addition was built to increase its size to 33,100 square feet. The three-story school is 2 ½ stories above grade and houses approximately fourteen (14) classrooms and a 2,100 square foot assembly space located on the lowest level. The assembly space was used as a multi-purpose auditorium/ cafeteria (known as a cafetorium). The property slopes downhill from the school to the east and the west of the narrow site, with playfields and paved play areas occupying the majority of the western expanse of the site. The site is also abutted by Boone Street to the west.

### Scope of Report

The purpose of this report is to provide an analysis of building and fire codes based on each of the following occupancy uses within the existing building:

- A. Remain as a school (educational occupancy)
- B. Offices (change to business occupancy)
- C. Storage facility ( change to storage occupancy)

The building was reviewed with the 2004 Rhode Island State Building Code and the 2004 Rhode Island State Fire Code and the Rhode Island Rehabilitation Building and fire Code for Existing Buildings and Structures, where applicable. In addition, the report includes probable costs for building and fire code upgrades based on each occupancy use.

The information in this report is based on general code observations. Please note that the general physical condition of the building, the site, utilities, plumbing, mechanical and electrical systems are not part of this evaluation. It is understood that this was not a thorough review of building conditions and that concealed elements within the building construction were not part of this report. All of the information contained in this report is based on general visual observations made at the time of the walk through. Moreover, this report does not address the adequacy of the spaces used to deliver an educational program. Please refer to the *Comprehensive Facility Feasibility Analysis* prepared by RGB in November 2003 for additional information.

### Building Code / Life Safety Review Summary

Wickford Elementary School was originally constructed of brick masonry wall construction on a stone foundation. The addition was built with similar materials of brick and CMU. The floor construction is concealed and therefore it is an assumed construction type of 3B per the building code and type III (200) per the fire code. Type III construction is that in which exterior walls are of non-combustible material and the building interior elements are of any material as permitted by code.

The existing building is not accessible for the handicapped. The first floor is not accessible from the ground level entrances and stairs must be used to access each floor within the building. In addition, to access the cafetorium from within the building stairs must be used. The railings for each of the stairs do not meet the required railing diameter for grip nor do the railings have the correct extension at the top and bottom of each stair. In most areas the door hardware needs to be replaced with levers. The doorways do not have the required 1'-6" on the pull side, adjacent to the door strike. The toilet rooms and fixtures appear to be original to the building and do not comply with accessibility guidelines.

The fire stairs are original to the building and are acceptable with a few modifications as noted and fire variances will be required. The exterior entrances into each stair include a step directly adjacent to the door which is not fire code compliant. The west stair can be modified to accommodate all required risers within one run. The east stair will require a raised concrete walk and ramp to accommodate the change in grade. The existing interior stair risers range from 6 1/2" to 7 3/4" within a stair run and the stair tread is typically 11". For an existing building, the sizes of the treads are acceptable but the range of riser heights within a run exceeds the allowable 3/8". In addition, the largest riser exceeds the maximum allowed height of a riser is 7 1/2". A fire variance should be requested to allow the existing stairs to remain. The pair of 2'-8" x 7'-0" wood doors, that separate the corridors from the stairs on each floor, are within wood frames and wired glass is within the pair of doors, sidelights and transoms. The doors are on magnetic hold-opens and have closers, but have no panic hardware and are not one-hour rated as required. The wall should be replaced with one-hour wall construction and a pair of one-hour fire rated doors and frame assembly. The fire stairs are required to be within a one-hour fire rated enclosure. At the east stair, at each floor, there is an office space with a non-fire rated wood door and frame that opens directly onto the stair. The door and frame should be replaced with a one-hour fire rated door and frame assembly and a closer. In addition, there are storage rooms at the first and second level that open directly onto the fire stair, which violates the codes; enclosed usable spaces are not allowed to be accessed within an egress stair. The non-fire rated door and frame should be removed and one-hour wall should be constructed in its place. If the storage space is necessary then consideration should be made in creating new door openings between the storage room and the adjacent classroom. On the ground level there is an electrical panel within a room that opens directly onto the fire stair which again is a code violation. The existing non-rated wood door and frame should be removed and replaced with a one-hour fire rated door and frame assembly and a closer. A variance will be required to continue housing the electrical panel directly off the stair. At the west fire stair, on the lowest level, a girls' toilet room is accessed directly off the fire stair which is in violation of the fire code because again it is an unoccupied space within an exit enclosure. Modifications should be made to the toilet room entrance and a new one-hour separation wall with protected openings should be constructed to protect the egress stair. At the exterior of the building the stairs either have no railings at all or have a railing only to one side, both of which are non-compliant. Code compliant rails should be installed at each exterior stair. In addition the vertical posts to the pipe railing at the exterior areaway, adjacent to the cafetorium,

are approximately 4'-0" on center. This railing is not code compliant and should be replaced with a 42" high guard rail. The fire escape stairs on the exterior of the building appear to be poorly maintained and are not currently required by code. It appears that exterior windows have been replaced in the recent past to allow for emergency rescue from the classrooms. However, upon verifying on site the clear window opening dimensions, the windows do not meet the required 24" clear window opening height.

A few modifications are required on the lowest level of the building. At the lower level within the boys' bathroom there is a pipe at the ceiling level that is 6'-5" above the finish floor. In an existing building 6'-8" is the minimum allowable height for projections. This pipe should be relocated to accommodate at the very least the minimum allowed height. The floor to the storage room, which is off the kitchen, is approximately 1 ½" lower than the kitchen floor. The maximum allowable floor level difference without a stair or ramp is ½". Therefore, the storage room floor should be made level with the kitchen floor. In addition, there is presently a 25' dead end corridor that exists at the kitchen Served area. Twenty-feet is the maximum allowable dead end distance within a building used for educational use and that is not fully sprinklered. Please refer to each occupancy use for allowable length of dead end.

Presently there are no sprinklers except a partial Fire Protection system located in parts of the original basement area. Areas of refuge would be required in the building unless it is fully sprinklered.

At present, very little in the way of ducted ventilation exists to serve the original portion of the school or the school's 1948 addition. Originally, the classroom spaces were provided with a gravity ventilation system in non-fire rated shafts. In addition, it is suspected that the toilet rooms are not provided with a level of ventilation conforming to current code standards. Within the kitchen, above the commercial gas stove, a kitchen exhaust hood does exist but there does not appear to be a dry chemical system for fire protection.

The facility currently has a municipally connected fire alarm system. There are no strobes in the classrooms or bathrooms, pull stations at exit doors, or smoke detectors in the corridors. This system does not comply with current codes and should be replaced. At the present time, there are no battery operated emergency units or generator serving the egress lighting of this facility. In addition, several additional exits are required and it has been noted in the *Comprehensive Facility Feasibility Analysis* that the exit lights throughout the building appear to have incandescent lamps, which are inefficient and have a relatively short lamp life.

Please refer to each occupancy code review for specific code requirements particular to the occupancy use.

## CODE REVIEW FOR A CHANGE IN CCUPANCY USE TO BUSINESS

### Accessibility: ADA Accessibility Guidelines

#### 28 CFR Part 36 Code of Federal Regulations

An office building must be made accessible for staff. RGB recommends the following minimum modifications:

- A. **New railings at:**
  - a. The (2) interior fire stairs
  - b. Stairs adjacent to the cafetorium (2 locations)
  - c. Exterior stairs
- B. **Door Hardware:** Provide new lever hardware for all doors
- C. **Door Clearance:** Provide modifications to walls and doors at each room entrance to accommodate a 1'-6" clearance on the pull side of a door. Upon approval by the Governor's Commission on Disabilities, in lieu of modifying all the walls install one magnetic hold open at each door.
- D. **Accessible toilet rooms:** On each floor modify each toilet room to accommodate (1) accessible toilet and toilet stall with grab bars and (1) accessible sink and faucet. The work will affect the adjacent plumbing fixtures along the wall; remove one adjacent toilet fixture to accommodate a handicap toilet stall. Reviewing the current plumbing code along with the occupant load, a count of four toilets are required on each floor, two female and two male.
- E. **Accessible Route:** Provide an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. Assuming the lowest level of the building will also be used for office space, a lift will be required to accommodate access to the cafetorium space on the lowest level of the school.

### Building and Fire Code Option 1

According to the Rhode Island State Building Code (RISBC) an existing building can be converted to a different occupancy, subject to the approval of the building official, provided the new occupancy is less hazardous than the existing use, based on life and fire risk evaluation. A certificate of occupancy must be issued where it has been determined that the requirements for the new occupancy have been met. An extensive evaluation, which determines building and safety scores, must be completed to determine full compliance under Chapter 34, Existing Structure.

According to the Rhode Island State Fire Code (RISFC) the building must conform to the requirements for new construction under its new use when an existing building changes its occupancy classification, regardless of whether there is any new construction work or not.

## Building and Fire Code Option2

In lieu of following RISBC and RISFC the State of Rhode Island Rehabilitation Building and Fire Code for Existing Buildings and Structures may be used. The purpose of this Rehab code is to encourage the continued use or reuse of existing buildings and structures and particularly addresses change of occupancy requirements. Many of the Rehab codes requirements will not be required unless alterations, renovations or reconstruction work occurs. Please note that for the business occupancy code review RGB presumed that the existing building will remain as is, for the most part, with modifications to address accessibility throughout the facility and modifications to each of the bathrooms to accommodate use by adults. This code option is outlined below:

### **State of Rhode Island Rehabilitation Building and Fire Code for Existing Buildings and Structures**

- F. **Means of egress lighting:** Required in all new work areas.
- G. **Accessibility:** Where alterations are being made to an existing facility then Chapter 10, *Accessibility*, of the Rehab code applies. A facility covered by this code shall remove architectural barriers where such removal is readily achievable. The following examples are noted within the code (but not limited to these examples):
  - a. Installing ramps
  - b. Making curb cuts in sidewalks and entrances
  - c. Repositioning shelves
  - d. Installing accessible hardware
  - e. Repositioning a paper towel dispenser
  - f. Creating designated accessible parking spaces.
- H. **Areas of Refuge:** Each area of refuge shall be sized to accommodate one wheelchair space (30"x48") for every 200 occupants. Two areas of refuge are required within this building. Area of refuge signage is required at each location and at each door to such location.
- I. **Egress Stairways:** Shall meet the requirements of NFPA 101 for existing buildings. All egress stairs are required to be separated from other parts of the building by one-hour fire resistant construction. Currently the doors, frames, sidelights and transoms between the stairs and corridors do not provide the one-hour fire protection and should be replaced. In addition, one-hour fire rated door and frame assemblies should replace the non-fire rated doors and frames at the existing office space on each floor of the east stair. Normally unoccupied space is not allowed to be directly accessed from within a fire rated stair enclosure. In other words, the existing storage rooms located within the east stair are a code violation. The non-rated doors and frames should be removed and replaced with one-hour wall construction. If the storage space is needed, new access openings can be created in the adjacent office space (which is presently classrooms). On

the lowest level of the east stair an electrical panel exists within an enclosed space accessed within the egress stair enclosure. The non-fire rated door and frame should be removed and replaced with one-hour fire rated door and frame assembly and closer. A fire code variance will be required to allow the electrical panel to remain in its existing location. At the west stair the girls' toilet room is accessed directly from within the egress stair. The toilet room is not a normally occupied space and therefore it is in violation of the fire code. The door to the girls' toilet room should be relocated and a new one-hour fire rated wall should be installed with one-hour fire rated door and frame assembly to provide the stair a protected separation from the remainder of the building.

- J. **Change of occupancy to an equal or lesser hazard:** According to section 702, Business occupancy is in the same hazard category as Educational occupancy; hazard level 3.
- K. **Capacity of means of egress:** per NFPA 101.  
Occupant Load: 100 GSF/ person  
Lower Level Total Occupant Load = 110 occupants  
First Floor level = 110 occupants  
Second Floor = 110 occupants  
Total building Occupant Load = 330 occupants  
The existing doors and stairs are large enough to accommodate the proposed egress capacity.
- L. **Means of egress:** When there is a grade change of 30 inches or more a guard rail is required. The current railing at the area way adjacent to the cafetorium is not code compliant and should be replaced with a 42" high guard.
- M. **Means of egress:** In existing buildings the ceiling height shall not be less than 7'-0" and projections may reduce the height to 6'-8". A pipe located at the ceiling in the Teachers' Work Room and the Boys' toilet room reduces the height to 6'-5". The pipe should be removed and relocated to be code compliant.
- N. **Floor Level:** The elevation of the floor surface at a door opening should not vary more than 1/2". On the lowest level of the school the storage room floor is 1 1/2" lower than the kitchen floor; the floor should be made level with the kitchen. In addition, at the two main entrances a step exists directly adjacent to the door which is a code violation. Provision should be made to modify the west stair to accommodate all risers within one run. At the east stair a concrete raised landing and ramp must be installed to accommodate the grade difference.
- O. **Boiler/ furnace requirements:** Per NFPA101. The boiler/furnace rooms are required to be separated by one-hour fire rated construction. The existing doors and frames to the mechanical rooms should be replaced with 3/4 hour rated door and frame assembly with closers. The common path of travel cannot exceed 50 LF and the mechanical rooms within the school meet this requirement.

## Wickford Elementary School

North Kingstown, RI

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- P. **Fire Alarm System:** Required per Rhode Island General Law 23-28.25-4 (b).
- Q. **Corridor doors:** Shall comply with NFPA 101 for existing occupancies. For existing business occupancy there are no requirements for corridors.
- R. **Existing shafts:** Shall comply with NFPA 101 for existing buildings. Existing shaft enclosures within existing buildings are allowed to be ½ hour rated fire barriers. The existing shafts at the school were originally used to naturally ventilate the classrooms. Typically a school of this age does not have shafts that meet the current code requirements. The shafts should be fire blocked at each floor level, the louvers in the classrooms and elsewhere should be removed and new wall construction should be installed in its place. A new mechanically vented system should be installed to meet the current ventilation code requirements for storage occupancy.
- S. **Heights and areas:** The height and area of the existing school is acceptable for business occupancy because the change in occupancy is made to an equal hazard category.
- T. **Automatic suppression system:** Not required. Portable fire extinguishers are required per NFPA 10.
- U. **Live Loads:** Any existing structure in which the new occupancy requires a higher live load than the existing occupancy then the reduced live load shall be posted with the approved load or the floors shall be structurally strengthened to support the new load. Per the current building code, office buildings require a 50 psf live load whereas classrooms require 40psf. RGB recommends a structural analysis of each floor prior to using this building for business purposes.

Please note the list above does not include work that could be required at the lower level to accommodate additional office spaces. The probable cost estimate does provide an allowance for upgrading the toilet rooms for adult use. RGB recommends programming of office spaces first to understand the desired the best use for the lowest level.

Probable Cost for Business Occupancy

UPGRADES REQUIRED FOR CHANGE IN OCCUPANCY TO BUSINESS

Item #	Code Section	Description	Allowance
<b>ACCESSIBILITY ISSUES</b>			
A		Install new railings at the two fire stairs, the stairs to the cafetorium and at the exterior stairs	\$ 25,000.00
B		Install lever hardware to each door within the corridor on each floor. Install lever on each floor. 74 Doors	\$ 35,000.00
C		Install (1) magnetic hold open device at each entrance where the wall does not accommodate a 1'-6" clearance on the pull side of the door. 34 Doors	\$ 48,000.00
D		Modify each toilet room on each floor to accommodate (1) accessible toilet, stall, sink and faucet. Remove (2) toilet fixture and one sink in each toilet room and install (1) accessible sink and one accessible toilet and stall at each toilet room on each floor. Where there is a single toilet room the fixtures are required to be accessible. Modifications to the walls, door and plumbing fixtures will be required to make each toilet room accessible (2 locations). 6 ADA toilets and 6 ADA sinks	\$ 320,000.00
E		Install an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. In addition, provide a lift to accommodate access to the cafetorium from within the lower level of the school.	\$ 150,000.00
<b>MEANS OF EGRESS ISSUES</b>			
F	NFPA 101: 15.2.9.1	Install emergency lighting per NFPA 101, section 7.9.	\$ 10,000.00
H	NFPA 101: 7.2.12	Create areas of refuge at each stair on each floor (2 locations total). Install areas of refuge signage area of refuge location and door to the area of refuge.	\$ 8,500.00
I	NFPA 101: 7.2.2.5.1, 7.1.3.2	Remove non-rated doors, frames, sidelights and transoms at each separation between the corridor and egress stair on each floor. Replace with one-hour fire resistant wall construction and one-hour doors and frame assembly. Install panic hardware and closers (6 locations). Remove non-rated doors, frames, and transoms at each separation between the east egress stair and office on each floor. Replace with one-hour fire rated door and frame assembly; install closers (3 locations). Remove non-rated door and frame assemblies at each storage room located in the east egress stair (2 locations). Install one-hour fire rated wall construction. Create new door openings to adjacent classrooms for use of the storage rooms. Replace the non-rated door and frame at the third floor east stair, where an electrical panel resides. Install one-hour fire rated door and frame assembly and closer. At the east stair relocate the girls' toilet room door and install a new one-hour rated enclosure with protected openings to separate the stair from the remainder of the building.	\$ 60,770.00
L	NFPA 101: 7.1.8	Install a new guard rail at the exterior areaway adjacent to the cafetorium, 50 L.F.	\$ 5,000.00
M	NFPA 101: 7.1.5	Remove and relocate the existing pipe in the boys' toilet room on the lowest floor level.	\$ 4,500.00
N	NFPA 101: 7.2.1.3.1, 7.2.1.3.2	Install concrete leveler on the storage room floor to be level with the kitchen floor. Modify the exterior west stair to accommodate all stairs risers within one run. Install a 5'-0"x5'-0" concrete pad and ramp at the east stair.	\$ 14,000.00
<b>FIRE PROTECTION ISSUES</b>			
O	NFPA 101: 15.3.2.1	Remove all doors and frames at Mechanical Rooms and replace with 3/4 hour fire rated door and frame assemblies, with closers. 17 Doors. Install fire sealant any through-wall penetrations at these locations	\$ 18,000.00
P		Install a complete fire alarm system in accordance with Rhode Island General Law 23-28.25-4 (b).	\$ 125,000.00
R	NFPA 101: 8.6.5	Within each existing non-fire rates ventilation shaft install fire blocking at each floor level. Remove the existing lover and install new wall construction. Provide code compliant ventilation per the Mechanical Code. 8 Vents	\$ 11,000.00
T		Install portable fire extinguishers per NFPA 101 9 total	\$ 4,500.00

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Probable Cost for Business Occupancy

		Allowance to modify each bathroom to accommodate use by adults. In addition to the fixtures noted above regarding accessibility fixtures, remove all existing fixtures and provide 1 new toilet, toilet stall, 1 sink, and accessories within each toilet room. Six toilets and sinks total.	\$ 120,000.00
<b>Sub-Total Probable Costs to Upgrade the Building per Building and Fire Codes for Business Occupancy</b>			<b>\$ 959,270.00</b>
		Contingency 10%	\$ 95,927.00
		A/E Fees 8 3/4%	\$ 92,330.00
		<b>TOTAL PROBABLE COST</b>	<b>\$ 1,147,527.00</b>
		Escalation Factor, 7%/year	\$ 80,327.00

## CODE REVIEW FOR THE EXISTING EDUCATIONAL OCCUPANCY TO REMAIN

**Building Code: Rhode Island State Building Code, 2004:** Since the occupancy use would not change, the building code is not applicable until the time of new work, such as additions, repairs or alterations to the existing building. Any new work must then comply with the current building code standards.

### Accessibility: ADA Accessibility Guidelines

#### 28 CFR Part 36 Code of federal Regulations

A school must be made accessible for students and staff. RGB recommends the following minimum modifications:

- A. **New railings at:**
  - a. The (2) interior fire stairs
  - b. Stairs adjacent to the cafetorium (2 locations)
  - c. Exterior stairs
- B. **Door Hardware:** Provide new lever hardware for all doors
- C. **Door Clearance:** Provide modifications to walls and doors at each room entrance to accommodate a 1'-6" clearance on the pull side of each door, adjacent to the door strike. Upon approval by the Governor's Commission on Disabilities, in lieu of modifying all the walls install one magnetic hold open at each door.
- D. **Accessible toilet rooms:** On each floor modify each toilet room to accommodate (1) accessible toilet and toilet stall with grab bars and (1) accessible sink and faucet. The work will affect the adjacent plumbing fixtures along the wall; remove one adjacent toilet fixture to accommodate an accessible toilet stall. Reviewing the current plumbing code concurrent with the occupant load, a count of six toilets are required on each floor; three female and three male. The lowest level toilet rooms are small and will not accommodate the required count but additional fixtures can be accounted for on the first floor. In addition, single toilet rooms will be required to be accessible as well.
- E. **Accessible Route:** Provide an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. In addition, a lift will be required to accommodate access to the cafetorium on the lowest level of the school.

**Fire Code:** Rhode Island Fire Safety Code (RIFSC), 2004  
Rhode Island Uniform Fire Code (RIUFC)  
Rhode Island Life Safety Code (RILSC)  
NFPA 101, Chapter 15 Existing Educational Occupancies

### General Requirements

1. Minimum Construction Requirements: No requirement
2. Occupant Load:  
Classrooms: 20 NSF/ person  
Assembly (Cafetorium): Less concentrated use without fixed seating: 15 NSF/ person  
Lower Level Total Occupant Load = 278 occupants  
First Floor level = 244 occupants  
Second Floor = 282 occupants  
Total building Occupant Load = 804 occupants

### Means of Egress Requirements

1. Rooms occupied by preschool, kindergarten and first-grade students must be located on a level of exit discharge (NFPA 101, 15.2.1.2). Based on code interpretation by NFPA both the ground level and the first level can be considered the level of exit discharge because the entrances are located on the split level between the lower and first floor. Therefore, upon approval by the local authority having jurisdiction, the lower level and first level can be used by preschool, kindergarten and first-grade students.
2. Means of Egress Components
  - F. **Minimum Corridor Width:** 72 inches required; 9'-0" actual.
  - G. **Number of Exits:** Not less than two on each level; 2 actual.
  - H. The cafetorium requires 2 mean of egress due to the occupancy load capacity of 140 people; 3 actual.
  - I. **Maximum Length of Dead End Corridor:** 20 LF (50 LF if the building is protected with a supervised automatic sprinkler system installed). The Servery will require modifications to minimize the dead end to be code compliant.
  - J. **Maximum Length of Common Path of Travel:** 75 LF (100 LF if the building is protected with a supervised automatic sprinkler system installed). The longest existing common path of travel within the building is 62 LF.
  - K. **Maximum Travel Distance:** 150 LF (200 LF if the building is protected with a supervised automatic sprinkler system installed). The longest existing travel distance is 108 LF.
  - L. **Emergency Lighting:** Required per NFPA 101, section 7.9. At the present time, there are no battery operated emergency units or generator serving the egress lighting of this facility.
  - M. **Windows for Emergency Rescue:** Every classroom larger than 250 SF must have at least one outside window for emergency rescue. The window must provide a clear opening of a minimum 21" width, 24" height, and a total of 5.7 SF in area. The bottom of the opening must be within 44" of the floor. Various window openings throughout the building were field verified for code compliance. The clear opening height ranges from 21" to 22" which does not meet code requirements. There are three possible options:

1. Seek a fire code variance. The windows are relatively new and the clear opening height is 2-3" shy of the code requirement.
  2. Replace one window in each classroom to accommodate the required clear opening.
  3. Install a supervised automatic sprinkler system throughout the building and the windows for emergency rescue would not be required.
- N. **Areas of Refuge:** Each area of refuge shall be sized to accommodate one wheelchair space (30"x48") for every 200 occupants. Five areas of refuge are required within this building. Area of refuge signage is required at each location and at each door to such location.
- O. **Stairs serving as an exit:** All egress stairs are required to be separated from other parts of the building by one-hour fire resistant construction. Currently the doors, frames, sidelights and transoms that separate the stairs from the corridors do not provide the one-hour protection and should be replaced. In addition, one-hour fire rated door and frame assemblies should replace the non-fire rated doors and frames at the existing office space on each floor of the east stair. Normally unoccupied space is not allowed to be directly accessed from within a fire rated stair enclosure. In other words, the existing storage rooms located within the east stair are a code violation. The non-rated doors and frames should be removed and replaced with one-hour wall construction. If the storage space is needed, new access openings can be created in the adjacent classrooms. On the lowest level of the east stair an electrical panel exists within an enclosed space accessed within the egress stair enclosure. The non-fire rated door and frame should be removed and replaced with one-hour fire rated door and frame assembly and closer. A fire code variance will be required to allow the electrical to remain in its existing location. At the west stair the girls' toilet room is accessed directly from within the egress stair. The toilet room is not a normally occupied space and therefore it is in violation of the fire code. The door to the girls' toilet room should be relocated and a new one-hour fire rated wall should be installed with one-hour fire rated door and frame assembly to provide the stair a protected separation from the remainder of the building.
- P. **Changes in Level in Means of Egress:** When there is a grade change of 30 inches or more a guard rail is required. The current railing at the area way adjacent to the cafetorium is not code compliant and should be replaced with a 42" high guard.
- Q. **Floor Level:** The elevation of the floor surface at a door opening should not vary more than ½. On the lowest level of the school the storage room floor is 1½" lower than the kitchen floor; the floor should be made level with the kitchen. In addition, at the two main entrances a step exists directly adjacent to the door which is a code violation. Provision should be made to modify the west stair to accommodate all risers within one run. At

the east stair a concrete raised landing and ramp must be installed to accommodate the grade difference.

- R. **Head Room:** In existing buildings the ceiling height shall not be less than 7'-0" and projections may reduce the height to 6'-8". A pipe located at the ceiling in the Teachers' Work Room and the Boys' toilet room reduces the height to 6'-5". The pipe should be removed and relocated to be code compliant.
- S. **Arrangement of Means of Egress:** One room is allowed to intervene between a classroom and an exit access corridor. Presently the second means of egress from the Serverly is through two adjoining classrooms. A corridor should be installed to provide a proper access corridor and a second means of egress.
- T. **Exit Signs:** New exit signs will be required at the new corridor. In addition consideration should be made in replacing all exit sign with new directional, energy efficient exit signs.

### 3. Protection

- U. **One-hour fire resistance protection** from the remainder of the building is required at the rooms noted below.
  - a. Boiler and Furnace Rooms
  - b. Janitor Closets
  - c. General Storage
  - d. Rooms deemed hazardous by the authority having jurisdiction

The janitor and storage doors are wood and not fire rated. The mechanical room doors are older and a determination could not be made of its fire rating. All doors and frames should be replaced with ¾ hour door and frame assembly with closers and lever hardware. Fire sealant should be installed at all through-wall penetrations. According to NFPA 101, section 15.3.2.1, if the building is protected with a supervised automatic sprinkler system the rooms noted above do not need to be protected.
- V. **Fire alarm System:** A complete fire alarm system must be provided in accordance with the applicable requirements of NFPA 70.
- W. **Extinguishment Requirements, NFPA 101, 15.3.5.1**
  - a. Where student occupancy exists below the exit of discharge, every portion of the floor must be protected throughout by an approved automatic sprinkler system. An automatic suppression system shall not be required if the following criteria are met:
    - Approval by the authority having jurisdiction.
    - Windows and ventilation per NFPA 101, 15.2.11.1.

The lowest level can be considered the level of exit discharge and therefore an automatic fire suppression system is not required, upon approval by the local authority having jurisdiction.
- X. **Corridors:** Corridor walls shall provide ½ hour fire resistance rating with 20 minutes protective openings and the doors are to be self-closing. The

existing classroom doors are wood with glass in the upper portion of the door and also in the wood framed transom above; the doors do not self-close. All corridor doors should be removed and replaced with 20 minute door and frame assembly with closers. In addition all through wall display cases must be removed and new ½ hour wall construction must be constructed in its place. Please note that if the building is protected with a supervised automatic sprinkler system the corridor walls are not required to be fire rated but they are required to be smoke partitions. In either case, the doors to the corridor must be self-closing.

- Y. **Shafts:** Existing shaft enclosures within existing buildings are allowed to be ½ hour rated fire barriers. The existing shafts at the school were originally used to naturally ventilate the classrooms. Typically a school of this age does not have shafts that meet the current ventilation code requirements. The shafts should be fire blocked at each floor level, the louvers in the classrooms and elsewhere should be removed and new wall construction should be installed in its place. A new mechanically vented system should be installed to meet the current ventilation code requirements.
- Z. **Separation of Occupancies:** This school contains two types of occupancies: educational and assembly (cafetorium). A two-hour fire rated separation is required between the two occupancies or the building would be required to comply with the most restrictive fire and life safety requirements which would be for assembly use which would be more costly. The sets of doors, sidelights and transoms that separate the cafetorium from the corridor, and from the west stair, should be replaced with a two-hour fire rated wall construction and 1 ½ hour door and frame assemblies, with closers, panic and magnetic hold opens. The rating of the existing horizontal separation between the cafetorium and the first floor level is uncertain. Until investigative work can be performed allow for the installation of a two-hour ceiling assembly.
- AA. **Protection from Hazards:** Commercial Cooking equipment shall be in accordance with NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*. A dry chemical system would be required for the hood.

• Septic  
 • Rat  
 • Fire Code

Probable Cost for Educational Occupancy

**UPGRADES REQUIRED FOR EDUCATIONAL OCCUPANCY**

Item #	Code Section	Description	Allowance
<b>ACCESSIBILITY ISSUES</b>			
A		Install new railings at the two fire stairs, the stairs to the cafetorium and at the exterior stairs	\$ 25,000.00
B		Install lever hardware to each door on each floor. 74 Doors	\$ 35,000.00
C		Install (1) magnetic hold open device at each entrance where the wall does not accommodate a 1'-6" clearance on the pull side of the door. 34 Doors	\$ 34,000.00
D		Modify each toilet room on each floor to accommodate (1) accessible toilet, stall, sink and faucet. Remove (2) toilet fixture and one sink in each toilet room and install (1) accessible sink and one accessible toilet and stall at each toilet room on each floor. Where there is a single toilet room the fixtures are required to be accessible. Modifications to the walls, door and plumbing fixtures will be required to make each toilet room accessible (3 locations). 6 New ADA compliant toilets and 6 ADA sinks	\$ 320,000.00
E		Install an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. In addition, provide a lift to accommodate access to the cafetorium from within the lower level of the school.	\$ 150,000.00
<b>MEANS OF EGRESS ISSUES</b>			
I	NFPA 101: 15.2.5.2	Modify the Servery area to reduce the dead end to less than 20'-0"	\$ 5,000.00
L	NFPA 101: 15.2.9.1	Install emergency lighting per NFPA 101, section 7.9.	\$ 10,000.00
M	NFPA 101: 15.2.11.1	Remove (1) window in each classroom and install a code compliant emergency rescue window. 17 Windows	\$ 27,000.00
N	NFPA 101: 7.2.12	Create areas of refuge at each stair on each floor (5 locations total). Install areas of refuge signage area of refuge location and door to the area of refuge.	\$ 8,500.00
O	NFPA 101: 7.2.2.5.1, 7.1.3.2	Remove non-rated doors, frames, sidelights and transoms at each separation between the corridor and egress stair on each floor. Replace with one-hour fire resistant wall construction and one-hour doors and frame assembly. Install panic hardware, magnetic hold opens and closers (5 locations). Remove non-rated doors, frames, and transoms at each separation between the east egress stair and office on each floor. Replace with one-hour fire rated wall, door and frame assembly; install closers (3 locations). Remove non-rated door and frame assemblies at each storage room located in the east egress stair (2 locations). Install one-hour fire rated wall construction. Create new door openings to adjacent classrooms for use of the storage rooms. Replace the non-rated door and frame at the third floor east stair, where an electrical panel resides. Install one-hour fire rated door and frame assembly and closer. At the east stair relocate the girls' toilet room door and install a new one-hour rated enclosure with a pair of doors, panic hardware, closers and magnetic hold opens to separate the stair from the remainder of the building.	\$ 60,770.00
P	NFPA 101: 7.1.8	Install a new guard rail at the exterior areaway adjacent to the cafetorium, 50 L.F.	\$ 4,000.00
Q	NFPA 101: 7.2.1.3.1, 7.2.1.3.2	Install concrete leveler on the storage room floor to be level with the kitchen floor. Modify the exterior west stair to accommodate all stairs risers within one run. Install a 5'-0"x5'-0" concrete pad and ramp at the east stair.	\$ 14,000.00
R	NFPA 101: 7.1.5	Remove and relocate the existing pipe in the boys' toilet room on the lowest floor level, 193 S.F.	\$ 4,500.00
S	NFPA 101: 15.2.5.4	Create a 1/2 hour rated corridor adjacent to the cafetorium with 20 minute fire rated doors with closers (3 doors).	\$ 12,000.00
T	NFPA 101: 7.10	Install 3 new exit signs at the newly created corridor (please refer to above adjacent work note).	\$ 4,500.00

Wickford Elementary School  
 North Kingstown, RI  
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Probable Cost for Educational Occupancy

FIRE PROTECTION ISSUES			
U	NFPA 101: 15.3.2.1	Remove all doors and frames at Janitor Closets, Storage Rooms and Mechanical Rooms and replace with 3/4 hour fire rated door and frame assemblies, with closers. 17 Doors. Install fire sealant at all through-wall penetrations at these locations	\$ 18,000.00
V	NFPA 101: 15.3.3.2	Install a complete fire alarm system in accordance with the applicable requirements of NFPA 70. 33,300 G.S.F.	\$ 125,000.00
X	NFPA 101: 15.3.6	Remove existing corridor doors and frames and replace with 20 minute fire rated doors with closers. 44 Doors	\$ 42,000.00
Y	NFPA 101: 8.6.5	Within each existing non-fire rated ventilation shaft install fire blocking at each floor level. Remove the existing louver and install new wall construction. Provide code compliant ventilation per the Mechanical Code. 8 Shafts	\$ 11,000.00
Z	NFPA 101: 6.14.4.1	Remove and replace (2) pairs of doors, frames, sidelights and transoms at the cafetorium. Replace with 2-hour wall construction and pairs of 1 1/2 hour fire rated doors, frames, panic hardware, closers and magnetic hold opens. Install a 2-hour fire rated ceiling assembly at the cafetorium ceiling.	\$ 5,800.00
AA	NFPA 101: 15.3.2.2	Install a dry chemical system at the existing Kitchen hood.	\$ 5,000.00
<b>Sub-Total Probable Costs to Upgrade the Building per Building and Fire Codes for Educational Occupancy</b>			<b>\$ 921,070.00</b>
		<b>Contingency 10%</b>	<b>\$ 92,107.00</b>
		<b>A/E Fees, 8 3/4%</b>	<b>\$ 88,653.00</b>
		<b>TOTAL PROBABLE COST</b>	<b>\$ 1,101,830.00</b>
		<b>Escalation Factor, 7%/year</b>	<b>\$ 77,128.00</b>

## **CODE REVIEW FOR A CHANGE IN OCCUPANCY TO STORAGE**

### **Accessibility: ADA Accessibility Guidelines 28 CFR Part 36 Code of Federal Regulations**

RGB strongly recommends a meeting with the local building official and a representative from the Governor's Commission on Disabilities to discuss the use of the building as a place for storage. The possibility of sizes of stored material should first be determined and discussions should occur to discuss the practicality of accessible spaces within a storage building. For the purposes of this report code interpretation (both local and Federal) will dictate the scope of work required to change the building's occupancy to storage type use.

### **Building and Fire Code Option 1**

According to the Rhode Island State Building Code (RISBC) an existing building can be converted to a different occupancy, subject to the approval of the building official, provided the new occupancy is less hazardous than the existing use, based on life and fire risk evaluation. A certificate of occupancy must be issued where it has been determined that the requirements for the new occupancy have been met. An extensive evaluation, which determines building and safety scores, must be completed to determine full compliance under Chapter 34, Existing Structure.

According to the Rhode Island State Fire Code (RISFC) the building must conform to the requirements for new construction under its new use when an existing building changes its occupancy classification, regardless of whether there is any new construction work or not.

### **Building and Fire Code Option2**

In lieu of following RISBC and RISFC the **State of Rhode Island Rehabilitation Building and Fire Code for Existing Buildings and Structures** may be used. The purpose of this Rehab code is to encourage the continued use or reuse of existing buildings and structures and particularly addresses change of occupancy requirements. Many of the Rehab codes requirements will not be required unless alterations, renovations or reconstruction work occurs. Please note that for the storage occupancy code review RGB presumed that the existing building will remain as is with no construction work unless required by code. In addition, RGB presumed that the proposed type of storage use will be Ordinary Hazard Storage as defined in NFPA 101. "Ordinary hazard contents shall be classified as those that are likely to burn with moderate rapidity or to give off a considerable volume of smoke." This code option is outlined as follows:

**State of Rhode Island Rehabilitation Building and Fire Code for Existing Buildings and Structures**

**Accessibility:** Where the occupancy changes and no new work is performed compliance with the accessibility building code is not required. However, this is public owned property and therefore the building is required to be accessible, per Federal regulations. RGB recommends the following minimum modifications:

- A. **New railings at:**
  - a. The (2) interior fire stairs
  - b. Stairs adjacent to the cafetorium (2 locations)
  - c. Exterior stairs
- B. **Door Hardware:** Provide new lever hardware for all doors
- C. **Door Clearance:** Provide modifications to walls and doors at each room entrance to accommodate a 1'-6" clearance on the pull side of a door. Upon approval by the Governor's Commission on Disabilities, in lieu of modifying all the walls install one magnetic hold open at each door.
- D. **Accessible toilet rooms:** On the first floor modify each toilet room to accommodate (1) accessible toilet and toilet stall with grab bars and (1) accessible sink and faucet. The work will affect the adjacent plumbing fixtures along the wall; remove all adjacent toilet fixtures to accommodate a handicap toilet stall. Presuming the occupant load for the building is less than 100 the two toilets and two sinks are required on the first floor to accommodate females and males.
- E. **Accessible Route:** Provide an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. In addition, a lift will be required to accommodate access to the cafetorium on the lowest level of the school.

**Building and Fire Code Option2:**

- F. **Means of egress lighting:** Required in all new work areas.
- G. **Areas of Refuge:** Each area of refuge shall be sized to accommodate one wheelchair space (30"x48") for every 200 occupants. Five areas of refuge are required within this building. Area of refuge signage is required at each location and at each door to such location.
- H. **Egress Stairways:** Shall meet the requirements of NFPA 101 for existing buildings. All egress stairs are required to be separated from other parts of the building by one-hour fire resistant construction. Currently the doors, frames, sidelights and transoms between the stairs and corridors do not provide the one hour protection and should be replaced. In addition, one-hour fire rated door and frame assemblies should replace the non-fire rated doors and frames at the existing office space on each floor of the east stair. Normally unoccupied space is not allowed to be directly accessed from within a fire rated stair enclosure. In other words, the existing storage rooms located within the east stair are a code violation. The non-rated doors and frames should be removed and replaced with one-hour wall construction. If the storage space is needed, new access openings can be created in the adjacent classrooms. On the lowest level of the east stair an electrical panel exists within an enclosed space accessed within the egress stair enclosure. The non-fire rated door and frame should be removed and

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North Kingstown, RI  
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replaced with one-hour fire rated door and frame assembly and closer. A fire code variance will be required to allow the electrical to remain in its existing location. At the west stair the girls' toilet room is accessed directly from within the egress stair. The toilet room is not a normally occupied space and therefore it is in violation of the fire code. The door to the girls' toilet room should be relocated and a new one-hour fire rated wall should be installed with one-hour fire rated door and frame assembly to provide the stair a protected separation from the remainder of the building.

- I. **Change of occupancy to an equal or lesser hazard:** According to section 702, Storage occupancy is in the same hazard category as Educational occupancy; hazard level 3.
- J. **Capacity of means of egress:** Per NFPA 101 which is based on probable population of the space. This number would be small and the existing doors and stairs can meet the required egress capacity.
- K. **Means of egress:** When there is a grade change of 30 inches or more a guard rail is required. The current railing at the area way adjacent to the cafetorium is not code compliant and should be replaced with a 42" high guard.
- L. **Means of egress:** In existing buildings the ceiling height shall not be less than 7'-0" and projections may reduce the height to 6'-8". A pipe located at the ceiling in the Teachers' Work Room and the Boys' toilet room reduces the height to 6'-5". The pipe should be removed and relocated to be code compliant.
- M. **Floor Level:** The elevation of the floor surface at a door opening should not vary more than ½". On the lowest level of the school the storage room floor is 1½" lower than the kitchen floor; the floor should be made level with the kitchen. In addition, at the two main entrances a step exists directly adjacent to the door which is a code violation. Provision should be made to modify the west stair to accommodate all risers within one run. At the east stair a concrete raised landing and ramp must be installed to accommodate the grade difference.
- N. **Boiler/ furnace requirements:** Per NFPA101. The boiler/furnace rooms are required to be separated by one-hour fire rated construction. The existing doors and frames to the mechanical rooms should be replaced with ¾ hour rated door and frame assembly with closers. The common path of travel cannot exceed 50 LF and the mechanical rooms within the school meet this requirement.
- O. **Fire Alarm System:** Required per Rhode Island General Law 23-28.25-4 (b).
- P. **Corridor doors:** shall comply with NFPA 101 for existing occupancies. There are no corridor requirements for storage occupancies.
- Q. **Existing shafts:** Shall comply with NFPA 101 for existing buildings. Existing shaft enclosures within existing buildings are allowed to be ½ hour rated fire barriers. The existing shafts at the school were originally used to naturally ventilate the classrooms. Typically a school of this age does not have shafts that meet the current code requirements. The shafts should be fire blocked at each floor level, the louvers in the classrooms and elsewhere should be removed and new wall construction should be installed in its place. A new mechanically vented system should be installed to meet the current ventilation code requirements for storage occupancy.
- R. **Heights and areas:** The height and area of the existing school is acceptable for storage occupancy because the change in occupancy is made to an equal or lesser

## Wickford Elementary School

North Kingstown, RI

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hazard category.

S. **Automatic suppression system:** Not required.

T. **Live Loads:** Any existing structure in which the new occupancy requires a higher live load than the existing occupancy then the reduced live load shall be posted with the approved load or the floors shall be structurally strengthened to support the new load. The type and of storage must be determined to understand the live load needs of the proposed use. RGB recommends a structural analysis be performed on each floor prior to using the building for storage.

Probable Cost for Storage Occupancy

**UPGRADES REQUIRED FOR CHANGE IN OCCUPANCY TO STORAGE**

Item #	Code Section	Description	Allowance
<b>ACCESSIBILITY ISSUES</b>			
A		Install new railings at the two fire stairs, the stairs to the cafetorium and at the exterior stairs	\$ 25,000.00
B		Install lever hardware to each door within the corridor on each floor. Install lever on each floor. 74 Doors	\$ 35,000.00
C		Install (1) magnetic hold open device at each entrance where the wall does not accommodate a 1'-6" clearance on the pull side of the door. 34 Doors	\$ 48,000.00
D		Modify each toilet room on the first floor to accommodate (1) accessible toilet, stall, sink and faucet and accessories.	\$ 27,000.00
E		Install an elevator, located adjacent to an accessible route from handicapped parking, to accommodate access to each floor level. In addition, provide a lift to accommodate access to the cafetorium from within the lower level of the school.	\$ 150,000.00
<b>MEANS OF EGRESS ISSUES</b>			
F	NFPA 101: 15.2.9.1	Install emergency lighting per NFPA 101, section 7.9.	\$ 10,000.00
G	NFPA 101: 7.2.12	Create areas of refuge at each stair on each floor (1 location total). Install areas of refuge signage area of refuge location and door to the area of refuge.	\$ 8,500.00
H	NFPA 101: 7.2.2.5.1, 7.1.3.2	Remove non-rated doors, frames, sidelights and transoms at each separation between the corridor and egress stair on each floor. Replace with one-hour fire resistant wall construction and one-hour doors and frame assembly. Install panic hardware and closers (6 locations). Remove non-rated doors, frames, and transoms at each separation between the east egress stair and office on each floor. Replace with one-hour fire rated door and frame assembly; install closers (3 locations). Remove non-rated door and frame assemblies at each storage room located in the east egress stair (2 locations). Install one-hour fire rate wall construction. Create new door openings to adjacent classrooms for use of the storage rooms. Replace the non-rated door and frame at the third floor east stair, where an electrical panel resides. Install one-hour fire rated door and frame assembly and closer. At the east stair relocate the girls' toilet room door and install a new one-hour rated enclosure with protected openings to separate the stair from the remainder of the building.	\$ 60,770.00
K	NFPA 101: 7.1.8	Install a new guard rail at the exterior areaway adjacent to the cafetorium.	\$ 5,000.00
L	NFPA 101: 7.1.5	Remove and relocate the existing pipe in the boys' toilet room on the lowest floor level.	\$ 4,500.00
M	NFPA 101: 7.2.1.3.1, 7.2.1.3.2	Install concrete leveler on the storage room floor to be level with the kitchen floor. Modify the exterior west stair to accommodate all stairs risers within one run. Install a 5'-0"x5'-0" concrete pad and ramp at the east stair.	\$ 14,000.00
<b>FIRE PROTECTION ISSUES</b>			
N	NFPA 101: 15.3.2.1	Remove all doors and frames at Mechanical Rooms and replace with 3/4 hour fire rated door and frame assemblies, with closers. Install fire sealant any through-wall penetrations at these locations	\$ 18,000.00
O		Install a complete fire alarm system in accordance with Rhode Island General Law 23-28.25-4 (b).	\$ 125,000.00
P	NFPA 101: 8.6.5	Within each existing non-fire rated ventilation shaft, install fire blocking at each floor level. Remove the existing louver and install new wall construction. Provide code compliant ventilation per the Mechanical Code.	\$ 11,000.00

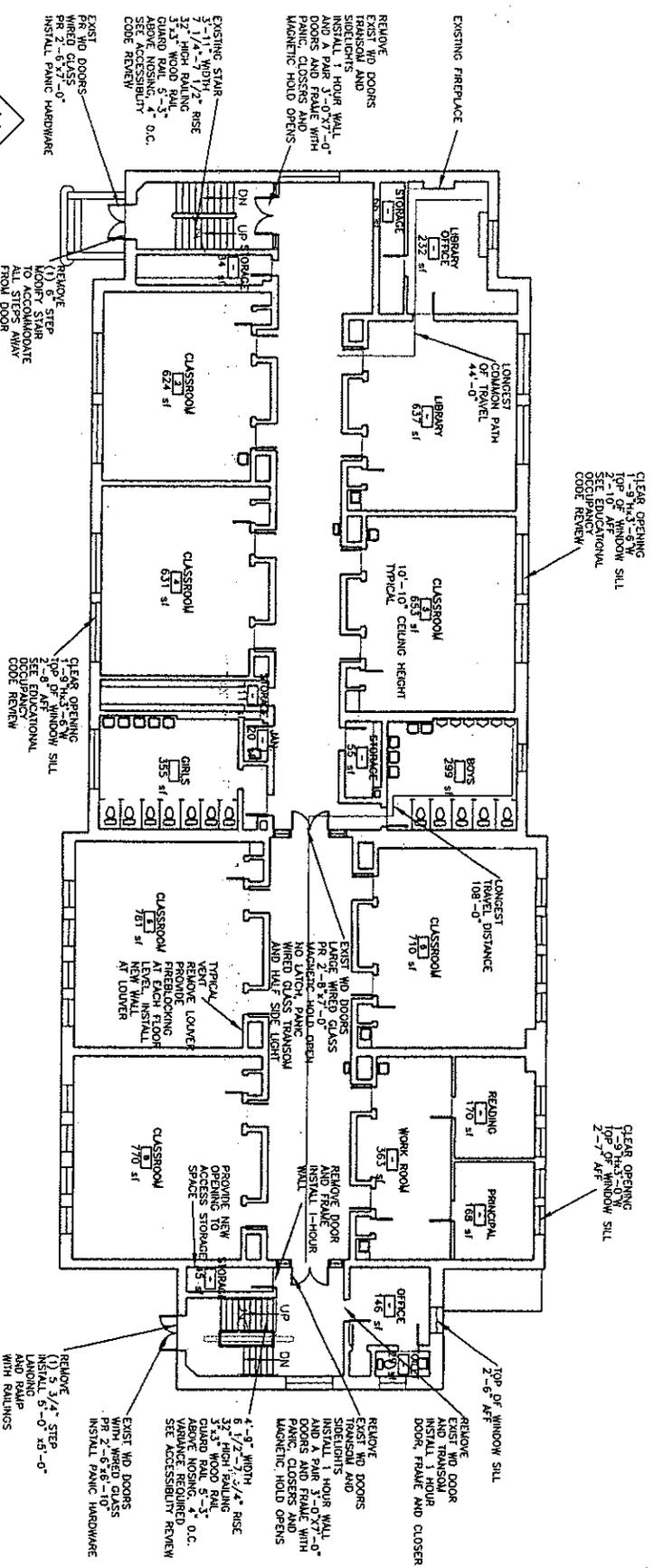
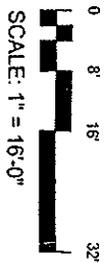
Wickford Elementary School  
 North Kingstown, RI  
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Probable Cost for Storage Occupancy

Total Probable Costs to Upgrade the Building per Building and Fire Codes for Storage Occupancy			\$ 541,770.00
		Contingency 10%	\$ 54,177.00
		A/E Fees, 8 3/4%	\$ 52,145.00
		<b>TOTAL PROBABLE COST</b>	<b>\$ 648,092.00</b>
		Escalation Factor, 7%/year	\$ 45,366.00



BASE PLANS HAVE BEEN ADAPTED FROM BACKGROUND INFORMATION PROVIDED IN "NOTES" FACILITIES STATEMENT PREPARED BY DESIGN GROUP INC. DATED APRIL 1994 IN THE FIELD BY THE ROBINSON GREEN BERETTA CORP. IN JUNE 2003



**FIRST FLOOR PLAN**  
 GROSS AREA = 11,000 +/- SF.



The information on this drawing is the property of R.G.B. Inc. and is to be used only for the project and location specified. It is not to be used for any other project or location without the written consent of R.G.B. Inc. R.G.B. Inc. is not responsible for any errors or omissions on this drawing. The user of this drawing is advised to verify all dimensions and conditions before construction.

Drawn by: SKH  
 Checked by: OJD  
 Approved by: [Signature]  
 The Robinson Green Beretta Corporation  
 401 273 7100  
 401 273 7100  
 401 273 7100  
 401 273 7100

**Existing Conditions Plan**  
**Wickford Elementary School**  
 99 Phillips Street  
 North Kingstown, Rhode Island

Drawing Group: NOV 2005  
 Code sheet:  
 Sheet Content:  
**FIRST LEVEL FLOOR PLANS**  
 Project Number: 559  
 Drawing No.:  
**A101**





4/27

Wickford Elem. - Deed

499

I, MARGARET L. GRANITON, of the Town of North Kingstown, County of Washington, State of Rhode Island,

for consideration paid, grant to TOWN OF NORTH KINGSTOWN, a municipal corporation of the State of Rhode Island,

with WARRANTY COVENANTS

One certain tract or parcel of land, located on the northerly side of Phillips Street, so called, in the Town of North Kingstown, County of Washington, State of Rhode Island, bounded and described as follows:

Beginning at a point on the northerly side of said Phillips Street, at a granite bound set in the ground, said point marking the southwest corner of the lot hereby to be conveyed, and marking also the southeast corner of a lot of land conveyed to this grantor by deed from Washington Association of Wickford, dated Sept. 29th, 1948, recorded in land evidence records of said Town of North Kingstown in Vol. 85 at page 409; from this point the line runs in an easterly direction along a stone wall fifty-five and ninety one-hundredths (55.90) feet to other land of this grantee, bounded southerly by said Phillips Street; thence the line turns and runs in a northerly direction Two Hundred thirty-one (231) feet, to other land of this grantor, bounded easterly by land of this grantee; thence the line turns and runs in a westerly direction Eighty (80) feet, more or less, to a granite bound set in the ground, bounded northerly by other land of this grantor; thence the line turns and runs in a southerly direction Two Hundred eight and twenty-five one hundredths (208.25) feet to a granite bound at point or place of beginning, bounded westerly by other land of this grantor.

The consideration of this deed is such that no revenue stamps are required.

The grantor hereby makes this conveyance as a deed of gift, the said premises to be used by the North Kingstown School Committee for recreational or for any other school purposes, at the direction and under the supervision of said Committee.

I, said MARGARET L. GRANITON, hereby warrant of the grantor covenant I am unmarried.

Witness my hand and the seal of the said County of Washington, this 27th day of APRIL 1969

State of Rhode Island, RIC  
County of WASHINGTON

Margaret L. Graniton

In NORTH KINGSTOWN, on the 27th day of April, 1969, before me personally appeared the above named GRANITOR, MARGARET L. GRANITON,

to me known and known by me to be the party executing the foregoing instrument, and she acknowledged said instrument, by her self, to be her act and deed.

Mary V. Duffy  
Notary Public

RECEIVED FOR RECORD

Post-It Fax Note	7671	Date	8/7	# of pages	1
To	PAUL BERGERON	From	CHRIS MACHADO		
Co./Dept		Co.			
Phone #		Phone #			
Fax #		Fax #			

Phillips St  
Dwelling to be used as  
Day school  
Greenwich  
School



**TOWN OF  
NORTH KINGSTOWN, RHODE ISLAND**

**FIRE DEPARTMENT  
PUBLIC SAFETY BUILDING  
8150 POST ROAD  
NORTH KINGSTOWN, R.I. 02852**

Phone: (401) 294-3346 EXT. 208  
Fax: (401) 294-4180

July 25, 2005

To: North Kingstown School Department  
Wickford Elementary School  
99 Phillips St  
North Kingstown Rhode Island

From: Gordon Walsh Fire Marshal  
Re: Code Compliance Inspection

Enclosed is a list violations found during the inspection of the property located at 99 Phillips St on July 25, 2005

Under the authority granted by section 23-28.2-20.1 of the Rhode Island State Fire Safety Code, you are hereby notified that the violations cited shall be corrected as soon as possible but not later than 30 days from the receipt of this notice.

If you feel that there will be practical difficulties in correcting the violations or if for any reason you wish to have a hearing on the violations, you may apply in writing to the State Fire Safety Code Board of Appeal and Review for a variation or to have your concerns addressed. Applications for variations are done on a separate form available from the Board of Appeal and Review and the State Fire Marshal's office. Requests for variation or hearing before the Fire Safety Code Board of Appeal and Review must be submitted within 30 days of the receipt of this notice. Failure to apply within the 30 day period will cause this notice to become a compliance order and will subject you to prosecution under the Rhode Island Fire Safety Code should you fail to correct all violations.

1.16 Notice of Violations and Penalties.

1.16.1 Whenever the AHJ determines violations of this Code, a written notice shall be issued to confirm such findings.

1.16.2 Serving Notice.

1.16.2.1 Any order or notice issued pursuant to this Code shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service, by mail, or by delivering the same to, and leaving it with, some person of responsibility upon the premises.

All existing buildings and structures, and those buildings and structures for which a building permit was issued prior to February 20, 2004, shall be subject to the provisions of the Rhode Island Uniform Fire Code addressing the existing occupancy.

**Building Owner:** Town of North Kingstown  
**Location:** Same as above  
**Inspected By:** Fire Marshal Gordon Walsh  
**Basis for inspection:** Code compliance

**Any violation, deficiency or requirement, which may have been overlooked in the course of this inspection, is also subject to correction under the provisions of any applicable code.**

### **Building Description**

This building has been inspected under NFPA 1, Uniform Fire Code 2003 Edition, and NFPA 101, Life Safety Code 2003 Edition, Chapter 15 Existing Educational. This building is a three-story unprotected masonry and wood frame constructed building. The building has been used as an elementary school for many years. This building has a municipally connected radio box. There are two stairways for the three floors.

### **Deficiency/Deficiencies**

- 1. This building has a non-compliant fire alarm system; there is no detection in the school except for a small section in the lower level that has a sprinkler system and a heat detector in the teachers lounge. There are also antiquated pull stations in the middle of the hallways. A full coverage fire alarm system is required.**

13.8.9.2 EDUCATIONAL

13.8.9.2.1

An occupancy used for educational purposes through the twelfth (12<sup>th</sup>) grade by six ( $\geq 6$ ) or more persons for four ( $\geq 4$ ) or more hours per day or more than twelve ( $> 12$ ) hours per week.

### 13.8.9.2.2

Educational occupancies include the following:

Academies	Schools
Kindergartens	

### 13.8.9.2.3

Other occupancies associated with educational institutions shall be in accordance with the appropriate sections of this chapter. In cases where instruction is incidental to some other occupancy, the section of this chapter governing such other occupancy shall apply.

### 13.8.9.2.4 FIRE ALARM SYSTEM REQUIREMENTS

#### 13.8.9.2.4.1

A total (complete) coverage fire alarm system as is defined in 72:5.5.2.1 - Initiating Devices - Detector Coverage and as prescribed in § 13.8.10.4.2 of this chapter shall be installed in all educational occupancies.

#### 13.8.9.2.4.2

In cases where instruction is incidental to some other occupancy, the section of these regulations governing the other occupancy shall apply. Sunday schools or church schools that are not used for daily classes throughout the week shall comply with that section of this chapter dealing with places of public assembly.

- 2. The emergency lighting and means of egress lighting are non-compliant. There are light packs at the exit doors but there is no emergency lighting on the exterior and none in the rest of the school.**

#### 7.8 Illumination of Means of Egress.

##### 7.8.1 General.

7.8.1.1\* Illumination of means of egress shall be provided in accordance with Section 7.8 for every building and structure where required in Chapter 11 through Chapter 42. For the purposes of this requirement, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and exit passageways leading to a public way.

#### 7.9 Emergency Lighting.

7.9.1 General.

7.9.1.1\* Emergency lighting facilities for means of egress shall be provided in accordance with Section 7.9 for the following:

- (1) Buildings or structures where required in Chapter 11 through Chapter 42
- (2) Underground and limited access structures as addressed in Section 11.7
- (3) High-rise buildings as required by other sections of this Code
- (4) Doors equipped with delayed-egress locks
- (5) Stair shaft and vestibule of smokeproof enclosures, for which the following also apply:
  - (a) The stair shaft and vestibule shall be permitted to include a standby generator that is installed for the smokeproof enclosure mechanical ventilation equipment.
  - (b) The standby generator shall be permitted to be used for the stair shaft and vestibule emergency lighting power supply.

7.9.1.2 For the purposes of 7.9.1.1, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of 7.9.1.1, exit discharge shall include only designated stairs, ramps, aisles, walkways, and escalators leading to a public way.

7.9.1.3 Where maintenance of illumination depends on changing from one energy source to another, a delay of not more than 10 seconds shall be permitted.

3. **The second floor and third floor corridors and classrooms have wood wainscoting on them approximately 55 inches high with paint on the wood. It is undetermined the fire rating of this material. The classrooms have the same material on the walls but not as high, there is also a lot of old trim work in the classrooms as well. The interior finish of these products are required to be rated.**

15.3.3.2 Interior Wall and Ceiling Finish. Interior wall and ceiling finish materials complying with Section 10.2 shall be permitted as follows:

- (1) Exits — Class A
- (2) Corridors and lobbies — Class A or Class B
- (3) Low-height partitions not exceeding 1525 mm (60 in.) and used in locations other than exits — Class A, Class B, or Class C

4. **In the east stairwell on the lower level there is a shared office, on the second level there is a reception office and on the third level there is a nurse's office. The stairwell is an exit enclosure and is required to be separated from the rest of the building. The fire doors that are back in the hallway are required to be rated doors; it is undetermined as to the ratings of these doors and enclosures.**

7.2.2.5 Enclosure and Protection of Stairs.

7.2.2.5.1 Enclosures.

7.2.2.5.1.1 All inside stairs serving as an exit or exit component shall be enclosed in accordance with 7.1.3.2.

7.2.2.5.1.2 Inside stairs, other than those serving as an exit or exit component, shall be protected in accordance with Section 8.6.

7.2.2.5.1.3 In existing buildings, where a two-story exit enclosure connects the story of exit discharge with an adjacent story, the exit shall be permitted to be enclosed only on the story of exit discharge, provided that not less than 50 percent of the number and capacity of exits on the story of exit discharge are independent of such enclosures.

7.1.3.2 Exits.

7.1.3.2.1 Where this Code requires an exit to be separated from other parts of the building, the separating construction shall meet the requirements of Section 8.2 and the following:

- (1)\* The separation shall have not less than a 1-hour fire resistance rating where the exit connects three stories or less.
- (2)\* The separation shall have not less than a 2-hour fire resistance rating where the exit connects four or more stories, unless one of the following conditions exists:

In existing non-high-rise buildings, existing exit stair enclosures shall have not less than a 1-hour fire resistance rating.

5. **In the west stairwell the stairs are not enclosed at the lower level by the music room or multi-purpose room. There are doors there, but there are no closures, it is undetermined the rating of these doors. The upper two levels have doors and closers, it is undetermined the ratings of these doors.**

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  - (a) In existing non-high-rise buildings, existing exit stair enclosures shall have not less than a 1-hour fire resistance rating.

**6. At this time both stairwells are considered unprotected stairwells.**

15.3.5.4 Buildings with unprotected openings in accordance with 8.6.6 shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

**6. There is a sprinkler system that covers just a portion of the lower level/basement. A complete sprinkler is required for that floor.**

15.3.5 Extinguishment Requirements.

15.3.5.1 Where student occupancy exists below the level of exit discharge, every portion of such floor shall be protected throughout by an approved automatic sprinkler system in accordance with Section 9.7.

15.3.5.2 Where student occupancy does not exist on floors below the level of exit discharge, such floors shall be separated from the rest of the building by 1-hour fire resistance-rated construction or shall be protected throughout by an approved automatic sprinkler system in accordance with Section 9.7.

15.3.5.3 Automatic sprinkler protection shall not be required where student occupancy exists below the level of exit discharge, provided that both of the following criteria are met:

- (1) The approval of the authority having jurisdiction shall be required.
- (2) Windows for rescue and ventilation shall be provided in accordance with 15.2.11.1.

7. **The exit door from the multi-purpose room direct to the outside when opened actually blocks the means of egress.**

7.2.1.4.4\* During its swing, any door in a means of egress shall leave not less than one-half of the required width of an aisle, a corridor, a passageway, or a landing unobstructed and shall project not more than 180 mm (7 in.) into the required width of an aisle, a corridor, a passageway, or a landing, when fully open, unless both of the following conditions are met:

- (1) The door provides access to a stair in an existing building.
- (2) The door meets the requirement that limits projection to not more than 180 mm (7 in.) into the required width of a stair or landing when the door is fully open.

8. **The eight burner commercial gas stove and the gas oven are required to have a NFPA 96 kitchen suppression system installed or remove the cooking appliances.**

9.2.3 Commercial Cooking Equipment. Commercial cooking equipment shall be in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, unless such installation are approved existing installations, which shall be permitted to be continued in service.

### 1.3 Application.

1.3.1\* This standard shall be applied as a united whole.

1.3.2 The authority having jurisdiction shall determine compliance with this standard and authorize equivalent deviations from it in all applications.

### 1.4 Retroactivity.

The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.4.1 Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

1.4.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard.

1.4.3 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of

the authority having jurisdiction, and only where it is clearly evident that a reasonable degree of safety is provided.

9. **The classroom doors appear to be hollow core doors with single pane glass. These doors are required to be a part of a corridor assembly and are required to be rated doors.**

15.3.6 Corridors. Corridors shall be separated from other parts of the story by walls having a ½-hour fire resistance rating in accordance with Section 8.3, unless otherwise permitted by the following.

(1) Corridor protection shall not be required where all spaces normally subject to student occupancy have not less than one door opening directly to the outside or to an exterior exit access balcony or corridor in accordance with 7.5.3.

(2)\* In buildings protected throughout by an approved automatic sprinkler system with valve supervision in accordance with Section 9.7, corridor walls shall not be required to be rated, provided that such walls form smoke partitions in accordance with Section 8.4.

(3) Where the corridor ceiling is an assembly having a ½-hour fire resistance rating where tested as a wall, the corridor wall shall be permitted to terminate at the corridor ceiling.

(4) Lavatories shall not be required to be separated from corridors, provided that they are separated from all other spaces by walls having not less than a ½-hour fire resistance rating in accordance with Section 8.3.

(5) Lavatories shall not be required to be separated from corridors, provided the building is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

(6) Existing doors in ½-hour fire resistance-rated corridor walls shall be permitted to be 44-mm (1 ¾-in.) thick solid-bonded wood core doors or the equivalent.

**Fire Code Violations will have an adverse effect on licenses and permits issued by the Town of North Kingstown and the State of Rhode Island.**

**Gordon Walsh  
Fire Marshal**



TOWN OF NORTH KINGSTOWN  
80 Boston Neck Road  
North Kingstown, Rhode Island

REPORT OF EXISTING CONDITIONS

NORTH KINGSTOWN SENIOR CENTER  
10 BEACH STREET  
NORTH KINGSTOWN, RHODE ISLAND

Caputo and Wick Ltd.  
1150 Pawtucket Ave.  
Rumford, Rhode Island 02916

July 1994  
Revised October 1994

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## SECTION I: GENERAL

In June of 1993 the firm of Caputo and Wick Ltd. was retained by the Town of North Kingstown to conduct an inspection of its Senior Citizens Center for the purpose of assessing its overall condition and structural integrity. The inspection was limited to a visual observation, and the following report is intended to note general conditions, identify any problem areas which may exist and suggest corrective measures which might be undertaken.

## SECTION II: EXISTING CONDITIONS

The subject structure, a multi-level wood frame building located adjacent to Narragansett Bay, currently serves as the Senior Citizens Center.

For analysis purposes the building has been divided into two separate and distinct structures. The first or main building, designated as The Center, consists of the original three-story wood frame structure with a two story wood frame wing addition located on the southerly facade. The second, designated as the Community Building, is a one-story concrete masonry/wood frame structure attached to the south facade of the two-story wing addition. An analysis of each structure is as follows:

The Center: The main building, in excess of 100 years old, is a three-story wood frame structure (full basement) with attached two-story wood frame wing addition (crawlpace). Originally built as a private residence and used in various capacities thereafter, the building was renovated in the early 1970's for use as the Town's Senior Citizen Center. Currently it provides office, meeting, craft and multi-purpose space for its patrons. The first and second floors are presently occupied while the third floor, in extremely poor condition, is considered uninhabitable.

The basement area, primarily unfinished and poorly maintained, provides a mechanical room and limited storage. A crawlspace adjacent to the basement area provides limited access and houses duct work, waste and water lines.

First floor framing consists of conventional 2" x 8" wood floor joists which bear either on a wood sill plate attached to the fieldstone foundation wall or on a series of 6" x 10" wood beams (running on an east/west axis). The beams are supported at 8' on center either by a series of steel pipe columns set on the concrete floor slab or by concrete piers.

Second and third floor framing consists of wood floor joists supported by perimeter wood frame walls or by interior wood frame bearing partitions which serve to transfer load to the beam and column arrangement below.

Roof construction consists of 1" wood plank decking on conventional wood rafters spaced at 16" o.c. Ceiling joists serve to tie rafters and provide support for the plaster ceiling below.

A visual inspection of the building's construction indicates that conventional methods and materials of the time were employed. In general the majority of framing appears to be sound, with limited evidence of deterioration and/or decay observed. No evidence of active insect infestation was noted in any exposed framing members. Areas of concern are as follows:

1. Evidence of water intrusion was noted throughout the third floor ceiling, principally at the north and south roof edges and around chimneys. Although no active water intrusion was observed during the inspection, staining along sections of ceiling are indicative of failure in the roof membrane and related flashing.

The primary source of this intrusion is located at wall/roof intersections at dormers where clapboard siding and step flashing have deteriorated. Former corrective work appears to have alleviated the majority of the problem; however, further investigation may be warranted if moisture problems persist.

An additional area of concern was noted at chimneys where flashing and grouted joint failure has greatly increased the chance of stormwater penetrating the building.

2. The removal of sections of interior wood partitions and floor deck on the third floor have created numerous hazards on this level. The current condition of the walls and ceilings is such that complete gutting and replacement of all finishes will be required to bring this floor into habitable condition.
3. The wood stairs, stairwell and associated framing appear to be in distress. Settlement along its main axis is quite evident and can probably be attributed to modification of the existing support framing in the basement. Although not in imminent danger of failure, proper support of the stairwell framing should be considered as a priority item when maintenance of the facility is addressed.
4. Fieldstone foundation walls are in need of limited remedial work including regrouting of loose stones and filling small voids in the wall located principally at the sill.
5. The condition of the fieldstone foundation that forms the southerly basement wall is in poor condition. The integrity of the wall has been compromised, and wood floor joists bearing upon it are poorly supported. The addition of auxiliary framing consisting of wood posts provides little additional support in this area. The foundation wall at this location (crawl space is located on the other side) should be rebuilt to provide adequate bearing for wood joists and associated framing above.

6. Beam bearing pockets in the foundation wall provide marginal support at two locations along the easterly foundation wall. Proper bearing should be provided at these locations.
7. Steel columns located in the basement of The Center are set either on 12 inch square concrete piers or directly on the existing concrete floor slab. Most column bases are not anchored and appear to be set only on the existing concrete slab (of unknown depth and construction). It is recommended that the size and configuration of the footings be verified and that column bases be securely anchored.
8. A brick pier located in the crawlspace (that provides support for floor framing above) is in poor condition and should be rebuilt.
9. General cleaning and repointing of brick joints and the removal of old plaster and wood lathe in the basement area should be undertaken. This effort will serve to remove unwanted refuse and debris, will expose framing currently not accessible, and will improve the general safety of the space.
10. Ventilation of the attic and associated space does not currently exist. It is believed that lack of proper ventilation of these spaces has greatly affected the overall condition of the exterior siding and trim. Both gable-end and soffit vents should be installed throughout the structure to insure proper ventilation and moisture control.

Community Building: The Community Building is located to the south of The Center and is accessed via a one-story wood frame connector. Constructed in 1979, the one-story concrete masonry and wood frame structure, measuring approximately 35' x 60', functions as a multi-purpose space providing dining and recreation facilities. A commercial kitchen is located in the northwest corner of the main level along with mens and womens restroom facilities.

The basement level, partially finished, is used for various recreational activities and includes a small greenhouse area.

Foundation construction includes a 12" cast-in-place perimeter concrete wall system that supports concrete masonry/wood frame exterior bearing walls. A 4" thick concrete slab on grade is provided at the basement level.

First floor framing consists of 2" x 12" wood floor joists at 12" on center bearing either on the concrete foundation or on a series of steel beams and columns (oriented on a north/south axis). A 5/8" plywood sub-floor with 3/8" underlayment is provided at the first floor level.

Roof construction consists of 5/8" plywood sheathing over wood roof trusses spaced at 24 inches on center (north/south axis) that bear directly on perimeter walls.

A visual inspection indicates that the building is generally in good condition; however, the following areas of concern were noted:

1. Signs of water intrusion were observed in the ceiling along the entire easterly side of the Community Building. The likely cause can be attributed to deteriorated and/or improper step flashing at the chimney. Further investigation of the cause and extent of the water intrusion could not be provided because access to the attic is not available.
2. As indicated, the attic space is not currently accessible. An access panel or hatch should be installed in the ceiling of the Community Building to provide appropriate access.

3. Translucent roofing panels at the greenhouse are in poor condition and virtually all panel joints have failed. It is recommended that the existing panels be removed, the framing be repaired and a new panel system installed.
4. Wood frame storage closets are located both under the basement access stair and adjacent to it. At the time of inspection, the closets were illuminated with a series of utility lights hung from extension cords. This condition creates a potential fire hazard, therefore permanent lighting fixtures should be installed and the closet space located under the stairs should be removed for code compliance.
5. The exterior cast-in-place concrete stairwell and associated framing located at the northeast corner of the Community Building are in marginal condition. A steel support column is badly oxidized and in need of replacement. The 4" floor drain does not appear to be operational. The upper cast-in-place stair and landing has settled in excess of two inches, and metal handrails and guards are not properly sized. It is recommended that rehabilitation of this stair and associated framing should be undertaken as part of any upgrade of this facility.

### **SECTION III: EXTERIOR COMPONENTS:**

The majority of the vertical surfaces at both The Center and Community Building are finished with wood clapboard siding providing 4" exposure to weather. The clapboards have a painted finish (extensive rehabilitation and/or sandblasting was undertaken some years ago), and their overall condition is considered to be from fair to poor. The easterly facade (the water side) is extremely weathered, and numerous cracks, holes and deterioration of clapboards was noted. Clapboards on the remaining sides of the building are sound; however, random replacement of deteriorated sections should be considered.

It is estimated that approximately one third of the clapboard siding should be replaced. The remaining surfaces should be properly prepared and the exterior of the building painted.

In addition, it is noted that limited areas of wood siding are in contact with the existing grade. The potential for deterioration of wood framing and siding from moisture and insect infestation is greatly increased at these locations. It is recommended that the deficient areas be regraded and that any damaged siding or sheathing be replaced.

Wood soffit and fascia are in fair condition. Deterioration was noted throughout and was especially evident at the northeasterly corner of The Center (approx. 20 linear feet) and along the south fascia. These areas should be restored as field conditions warrant.

A wrap-around porch is located on the north and east facades of The Center. Set on isolated brick piers, the wood joists and deck boards are in good condition. Replacement of some decking (approximately 10%) is recommended. A decorative wood guardrail is installed along the perimeter of the porch between 10" diameter wood columns. This rail is in good condition.

A wood frame ramp provides access from the north entry onto the porch deck. Recently installed, the ramp and door are in sound condition and meet accessibility standards for the disabled.

Metal gutters and downspouts, not original to the building, are generally sound and appear to function as intended. Elbows and concrete splash blocks should be provided at all locations to insure proper runoff and to prevent erosion.

Roofing materials consist of either asphalt shingles, an adhered membrane, or tar and gravel on wood decking. The overall condition of the roofing appears to be good. Some evidence of water intrusion, as previously discussed, was observed along upper sections of roof; however, these areas appear to be limited. Flashing at chimneys, vent stacks and wall/roof intersections provides a source of water intrusion, and rehabilitation of these areas should be undertaken.

Three brick chimneys are in poor condition above the level of the roof. Major repointing and brick replacement is required especially for the chimney located at the northeast side of the building where loose and missing bricks provide a potential safety hazard to people walking in the area below.

A steel fire escape that provides a second means of egress from the second and third floor is in good condition.

#### **SECTION IV: INTERIOR COMPONENTS**

The interior finishes of floors, walls and ceilings in The Center are quite varied. Plaster walls and ceilings at the first floor level appear sound and in good condition with respect to age. Finish floorings consisting of hardwood, linoleum or carpet currently exist, and replacement of some areas is warranted. Accoustical lay-in ceilings have been installed in some areas on the first floor.

Interior finishes for the second floor consist of carpeted floors, wood panelling (with the exception of wallpaper in one office) and accousitcal tile ceilings. All materials on the level appear to have been installed during renovation work performed in the 1970's.

The overall condition of floors, walls and ceilings on the third floor is extremely poor, and complete gutting of the interior will be required if occupancy of this floor is considered.

Double-hung wood windows with single glazing and storm units are prevalent throughout The Center. Their overall condition is fair; however, due to their age they are drafty, present continual maintenance problems, and likely contain lead paint. Replacement of these windows with new energy-efficient units would reduce heating and cooling costs and provide added comfort for patrons and employees.

#### **SECTION V: CODE COMPLIANCE**

The original structure, built approximately 100 years ago as a private residence, was constructed before the implementation of building codes. Renovation work undertaken in the 1970's should have been completed under the provisions of the state and local codes in affect at that time. A visual analysis was conducted in order to evaluate compliance with current code. Based upon that inspection, a number of minor deviations were observed. The non-conforming items with suggested corrective action are noted as follows:

1. The third floor is currently not considered habitable space, and improvements to egress (in the form of a rated stairtower) would be required to provide proper access to this space.
2. Handrails at stairs should be 34" high, and railings at balconies and landings should be 42" high. The present wood handrail and guardrails do not meet these standards, and modification is recommended. In addition, the guardrail and handrails at the Community Building do not meet current code and should also be modified.

3. Although restroom facilities in the Community Room are of proper size and configuration, the installation of storage lockers in the womens' room has reduced access below minimum standards. The storage cabinet should be removed.
4. Access to the basement level of the Community Room is reached by a wood frame stair. Headroom at the basement level is reduced to approximately 6'-0". Code requires that the minimum headroom in all parts of the stairway be not less than 6'-8".

#### **SECTION VI: BUILDING ACCESSIBILITY REQUIREMENTS**

As it currently exists, the Center appears to meet the minimum standards for accessible buildings including toilet facilities, entrances and accessible routes. Primary access to the first floor is located on the west side where a concrete ramp provides access to a vestibule area. From there access to the first floor of both The Center and the Community Room is readily achieved. Access to offices located on the second floor and the unoccupied third floor is available only from an existing interior stair.

Recently enacted legislation, the Americans with Disabilities Act, requires the removal of architectural and structural barriers in existing facilities where removal is readily achievable and able to be carried out without difficulty or expense. Examples of this type of improvement includes installing ramps, repositioning telephones, installing grab bars, removing high pile, low density carpeting, etc. The Center and Community Room appear to be in compliance with these minimal standards; however, any renovations to the facility would likely require the improvement of certain non-accessible features (i.e. repositioning the telephone, widening doors, repositioning shelves).

Finally, although mechanical access (an elevator or lift) to the upper floors is not currently provided or required, significant alteration, modification or change of use in the existing facility may, under certain situations, require the installation of an elevator.

#### **SECTION VII: HEATING, VENTILATING AND AIR CONDITIONING**

The heating system throughout the facility is forced hot water from a central sectional cast iron boiler. While the boiler capacity is not labeled, the tagged burner (No. 2 oil) was tagged with a firing range of 4-8 GPH, putting the input capacity at 600,000 to 1,200,000 BTU/HR. A structure of the size and type of the subject facility is expected to have a net heating load of under 400,000 BTU/HR. The boiler is fitted with a tankless heater for the production of domestic hot water, and this is combined with a 15 gal. capacity 2KW water heater, also located in the boiler room.

Because the boiler is sectional cast iron, it is resistant to corrosion. Therefore its age is not relative to its remaining useful life. The visible condition appears good, with no visual sign of leaks.

The forced hot water system has seven zones of control, with seven electric zone valves mounted alongside the boiler. The circulation pumps (2) are in-line circulators mounted in the boiler return piping. Zone valve wiring and zone identification should be upgraded. (Wires are frayed and loose, zone identification is not clear.)

There are two fuel oil storage tanks (presumed to be new) located in the basement adjacent to the boiler room, with approximately 200 gal. storage capacity each. This installation is in compliance with R.I. codes that limit indoor storage capacity to 660

gals. The fuel oil fill and vent station is located alongside the porch floor at the north side, with both the vent and the fill pipe at approximately 18" to 24" above grade.

Combustion air to the boiler room consists only of a 24" x 6" opening at 6' above the floor, ducted to under the porch floor. The duct was found to be full of leaves and debris. Code requires two openings, one near the ceiling and one near the floor, at 1 sq. inch per 4000 BTUH input.

The oil burner wiring is BX sheathed cable that is very loose and subject to accidental damage. The junction box is unmounted, hanging on the cable. This installation should be improved.

An old fuel oil copper pipe located under the basement slab is abandoned and capped near the boiler. Based thereon an old buried fuel oil tank may also have been abandoned. If so, the tank should be registered with the R. I. Department of Environmental Management. D.E.M. may require removal of the tank and any contaminated soil.

The boiler is vented to a concrete block chimney with a clay liner. A cleanout door located at grade needs to be mortared back into proper position.

A 69,000 BTU input L.P. gas water heater serving the kitchen is located in the Community Building. Combustion air consists of one 12" x 6" louver. R. I. Code requires two louvers, one located near the ceiling and one located near the floor.

An electric kiln labeled at 9250 watts is located in the basement of the Community Building. Ventilation is not provided to exhaust the excess heat. While not a code violation, the lack of exhaust is detrimental to the room environment if and when the kiln is used during mild or warm weather conditions.

General mechanical ventilation is not provided in this facility, therefore ventilation depends on operable windows. Several toilet rooms also depend on operable windows for natural ventilation without mechanical exhaust.

The Community Building dining room is air conditioned from four sets of split AC systems. Again, mechanical ventilation is not provided.

The kitchen exhaust hood is vented to the outdoors with a motor-driven fan. The hood is protected with a dry chemical fire extinguishing system.

A cabinet unit heater located at the entrance to the dining room is leaking water from an air vent on the hot water coil. This should be repaired before irreparable damage is done.

The unoccupied third floor of the original building is used for storage. This area has fin-tube radiation throughout as the source of heat. Due to the disrepair of the window storm sash, window leakage, etc., it is judged that considerable wasted heat occurs at the third floor level.

There are numerous brick fireplaces in the original facility. It is assumed that these are no longer used. The flue dampers should be checked for positive closure to avoid wasted heat that could occur if room air escapes through damper leakage.

#### **SECTION VIII: PLUMBING**

Plumbing is provided for several toilet rooms and the Community Building kitchen.

The first floor level of the main (original) building contains one mens toilet room with a built-in shower. This toilet room is not A.D.A. accessible. Also, provided is a unisex toilet

facility that has a handicapped-accessible water closet. The counter-mounted sink is not A.D.A. accessible. However, a new (additional) handicapped-accessible counter-mounted sink is under construction.

A toilet room (lavette) located at the second floor level is also not A.D.A. accessible.

The Community Building dining room has seating capacity for approximately 72 people. The kitchen consist of an L.P. gas range/oven/grille; a small commercial dishwasher (no pre-rinse station) and a triple pot sink. There are no provisions for grease extraction from the kitchen fixture discharges. Since this facility is not connected to a public sewer system, the absence of a grease trap is not a code violation. However, the absence of a grease trap allows grease to enter the septic system and may impact its long-term operation and effectiveness.

R. I. Fire Safety Code requires, in addition to existing fire suppression for the kitchen exhaust hood, automatic suppression and fuel cut-off for certain cooking appliances. A fire suppression specialist should be employed to review and advise any such system modifications for code compliance.

Two staff toilet rooms adjacent to the kitchen are A.D.A. accessible.

An above-ground liquid propane storage tank is located approximately 12 feet from the Community Building. This installation is in compliance with NEPA 58 which requires 10 ft. minimum clearance.

A 1/2" L.P. gas pipe enters the main building but disappears into unaccessible crawl space at basement level. There is no identified appliance served by this pipe which appears to be abandoned. If abandoned, the piping should be removed in the interest of safety.

The domestic water piping system is generally copper tubing. The associated pipe insulation is in need of repair where damaged, or replacement where sections are missing.

Sanitary drainage piping where accessible is all relatively new ABS plastic with solvent weld joints. No deficiencies were noted.

#### **PART IX: ELECTRICAL SERVICE AND DISTRIBUTION**

The facility has two 200 Ampere, 120/240 volt, single-phase services. One service supplies a 225 Ampere panel that serves the main three-story building. The other supplies a 200 Ampere circuit breaker that feeds a 200 Ampere panel on the first floor. This panel serves the Community Building.

There is also a 125 Ampere sub-panel on the second floor. The majority of branch circuits are wired with either type NM (Romex) or BX cable.

The water pipe is used as the sole grounding electrode. The National Electric Code (NEC) requires a supplemental electrode that is bonded to the grounding system. Also a jumper is not provided around the water meter for bonding the water piping to the grounding system.

There are copper water pipes that run through the access/clearance space for the service equipment. Current NEC prohibits pipes, ducts, etc. from passing through such space.

The panel that serves the Community Building is installed in a closet that does not provide the required minimum 30" wide working space.

In the basement of The Center an unsupported light fixture and several junction boxes with missing covers were noted. In addition, the wiring and junction box for the oil burner are not properly secured.

The receptacles in all bathrooms are not GFCI protected as required by code. Receptacles located near the sink in the kitchen are not GFCI protected.

More counter top receptacles are needed in the Community Building kitchen. The NEC requires that no point along the wall is more than 24" from a receptacle.

It was noted that the an emergency lighting battery cabinet located in the stairwell is missing a cover.

The disconnect switches for the exterior air conditioning units are badly corroded and should be replaced.

The third floor of the main building is in need of general power and lighting repairs.

Many of the light switches in the facility do not comply with A.D.A. requirements because they are located too far above the floor.

All of the electrical panels have little or no room for additional circuits. This limits the ability to add any electrical load in the future. Additionally, the panel that serves the Community Building has several tandem circuit breakers. These breakers allow two separate circuits in a one-pole space, which could lead to overloading the panel. It is recommended that this panel be tested to determine actual load.

## **SECTION X: FIRE ALARM AND LIFE SAFETY**

The facility is served by an eight zone fire alarm panel, with each floor in the Center and Community Buildings considered a separate zone. Connected to each zone are manual pull stations, heat detectors, horns and combination horn/strobe units. The system has a battery backup located in the basement of the Center. There is a master box located outside the entrance to the gift shop.

Emergency lighting for the facility is provided by several battery powered units with remote light heads. This system appears to meet all code requirements with the exception of a missing light at the gift shop entrance.

The fire alarm system, as it is currently installed, does not appear to meet the Rhode Island State Fire Code. Although the wiring located inside of walls or the inside of the control panel was not accessible for inspection, the construction drawings for the system indicate that it is wired as a local type system. Because there is a master box that summons the fire department when an alarm is initiated, the system is considered to be a supervised system. In order to comply with the requirements for a supervised system, several changes are required. Among these changes are rewiring of all zones, adding smoke detectors in corridors and at the tops of stairwells, adding strobe lights and the installation of wiring in conduit (or metal clad cable in some areas when approved by the authority having jurisdiction). In addition, it is considered to be likely that the battery backup is only good for 24 hours, not 60 hours as required for supervised systems. In addition, most of the pull stations are located too far above the floor to meet A.D.A. requirements.

## PART XI: SITE CONDITIONS

Bituminous concrete driveways, parking areas, lawn and sidewalks are in reasonably sound condition with limited areas of curb and bituminous driveways requiring repair and/or replacement.

Parking areas, although relatively flat, appear to be adequately graded to prevent major flooding or damage to the Senior Center. Stormwater is removed from the site via a partially closed drainage system and sheet flow to a grassed area.

A small area at the southwest corner of the Center appears to be experiencing some drainage problems. Two roof leaders located at this relatively small flat area are causing ponding and water intrusion at this location. These leaders should be tied to an existing storm drain located at the edge of the parking area.

Sewage is transmitted via a gravity system from the Center and Community Room to two individual septic systems located to the east and west of the facility. The systems appear to be adequately sized and maintained and no problems were noted or reported during site visits. However, the septic tank for the system located to the east appears to need service (pumping).

## SECTION XII: HAZARDOUS MATERIALS

Due to the age of the Senior Center, the presence of lead-based paint must be assumed on both interior and exterior paint surfaces. As previously discussed, modifications to the exterior of the building (principally removal of large quantities of paint from clapboards either by sandblasting or chemical means) may have eliminated some of the original lead-based paint. During field observation multiple layers of paint were observed around windows, casings, and along the building's soffit, eaves and fascia. Based thereon, lead-based paint is almost certainly present in underlying paint that was applied prior to or during the 1970's.

The presence of asbestos was not noted during visual inspection of the facility basement and mechanical room; however, the likelihood that it exists in concealed wall and ceiling spaces is great due to the age of the building and construction methods employed. Any renovation or rehabilitation work planned for the facility should budget funds for the containment and removal of concealed asbestos.

Testing for radon gas was performed in the basement areas as part of the facility audit. The purpose of the testing was to determine if radon was present and if so at what concentration. Radon is an inert gas, both colorless and odorless, whose presence can be detected only by chemical or other testing techniques. At the earth's surface the risk of radon is slight; however, the potential for it to become trapped in buildings is increased depending upon the type and relative tightness of the foundation system and/or the presence of radon in granite or other stone building materials.

Two tests were performed, one in the basement of the Center and the second in the basement of the Community Building. Testing involved exposing a sampling device to atmosphere at basement floor level for several days, retrieving the device, and providing a laboratory analysis of radon levels collected by the device.

The analysis indicates that a radon level of 2.2 picocuries/liter\* is present in the basement of the Community Building. Human exposure risk at this level is considered to be average for basement areas. Reduction of radon levels below this concentration is considered difficult to achieve and unnecessary.

Radon levels in the basement of the Center measured 10.1 picocuries/litre\*. Human exposure at this level involves slight risk and reduction procedures should be considered if the area is to be used on a continuous basis. Currently the area is used only for mechanical systems and storage.

At the Senior Center basement the higher level of radon encountered may be partially attributable to the fieldstone foundation walls and/or the relative lack of "tightness" in the foundation wall system. Enclosure of the perimeter fieldstone walls and increased ventilation of the space would serve to lower existing levels to an acceptable range.

Under these circumstances found in the Senior Center, radon levels can vary seasonally. Therefore if more intense use of the basement area is considered, additional long term testing may be warranted to obtain seasonal radon levels and to insure against implementation of costly but unnecessary rehabilitation.

\*See Appendix for test results.

**SECTION XIII: COST ESTIMATE OF BUILDING RENOVATION/UPGRADE**

Budget estimates for corrective work recommended and outlined in this report are delineated below.

Budgetary figures were compiled using "Means Building Construction Cost Data 1994" and reflect standard industry prices.

Install new drainage system (southwest)	\$ 2,500.
Upgrade downspouts and splash blocks	750.
RegROUT concrete/fill voids	5,000.
Repair to foundation wall (south)	3,000. <sup>a</sup>
Beam bearing pockets, brick pier	1,500.
New footings/sawcut floor	6,000.
Cleaning and repointing brick	1,500.
Gutting/rehabilitation of 3rd floor	28,000.
Rehabilitation of existing stair	8,500. <sup>a</sup>
Shingle/flashing replacement	3,300.
Chimney repointing/repair	3,500. <sup>a</sup>
Soffit/gable vent installation	3,500.
Attic access hatch (Community Center)	650.
Greenhouse roof replacement	900.
Rehabilitaiton of concrete stair (Community Center)	4,000. <sup>a</sup>
Wood siding replacement	6,200.
Painting	7,500.
Misc. wood replacement/rehabilitation	6,500. <sup>b</sup>
Window Replacement	15,000.
Mechanical	8,500. <sup>c</sup>
Plumbing	1,000.
Electrical/Fire Alarm	<u>10,000.<sup>c</sup></u>
Budget	127,300.
Contingencies (20%)	<u>25,500.</u>
<b>Total</b>	<b>\$152,800.</b>

<sup>a</sup>Priority Item

<sup>b</sup>Includes: basement, stair modifications @ Community Center, misc. wood handrails, soffit/trim replacement...

<sup>c</sup>See Report for code upgrade recommendations

#### SECTION XIV: CONCLUSION

Based upon a review of construction drawings and a visual inspection of existing conditions at the facility, it appears that the complex is generally in sound condition and capable of continuing to function as a Community Center for the Senior Citizens in the area.

Currently, as discussed in the body of the report, there are a few areas of concern which should be addressed. The majority of these areas are minor deferred maintenance and nuisance-type problems; however, a small number deal with building code or other safety issues and should be considered as priority items as plans for upgrading the facility are developed.

Finally, it is our opinion that with improved maintenance and the rehabilitation of the facility the Center can continue to function in its present capacity. We estimate that \$160,000 should be budgeted for rehabilitation and that prior to commencing any major renovation detailed design drawings be prepared to insure that architectural modifications are compatible with the structural system.

**APPENDIX**

DMA-RADTECH, INC.  
701 Chestnut Street  
TRAINER, PA 19061

COMMUNITY BUILDING

CAPUTO & WICK LTD.  
1150 PAWTUCKET AVE.  
RUMFORD RI 02916

C

Date: 09/20/94

### RADON ANALYSIS REPORT

This report is confidential and will not be released to anyone without your permission, except as required by law.

This analysis represents the Radon-222 concentration in the air only at the time of the sampling.

Detector Number ....: 573253  
Room Tested .....: BASEMENT  
Sample analyzed ....: 09/19/94 21:14

Your measurement RESULT is 2.2 picocuries/litre

If your result is WITHIN "EPA GUIDELINES FOR ACTION."

You may want to make additional measurements during each of the four seasons, as radon levels can vary. We will send you a reminder in three months.

If your result is ABOVE "EPA GUIDELINES FOR ACTION."

You should not undertake costly repairs or changes based upon this measurement. Please refer to the information provided with this report, which is extracted from A CITIZENS GUIDE TO RADON published by the EPA.

The recommendation by the EPA includes instructions to make measurements of no more than one week in duration, during the four seasons. Depending on the level of your result, you may wish to retest immediately, or within 3 months.

#### LIMITATIONS OF DATA AND PRODUCT LIABILITY

This product is designed only to detect radon levels in a specific location. It can not guarantee the overall level of radon present in a home or building, or that people will not be exposed to potentially harmful levels of radon. The cost of this product is based solely on the value of the monitoring, and is unrelated to the value of any customers' property or health. DMA is not an insurer. Any insurance covering personal injury, health and/or property loss or damage, must be obtained and maintained by customers.

DMA RADTECH, INC. EXPRESSLY DISCLAIMS ALL LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES RESULTING FROM THE IMPROPER USE OF THE PRODUCT OR THE IMPROPER INTERPRETATION OF THE DATA GENERATED BY THE PRODUCT. DMA RADTECH'S AND ITS AGENT'S SOLE AND EXCLUSIVE LIABILITY AND THE CUSTOMER'S SOLE LIABILITY AND EXCLUSIVE REMEDY WILL NOT EXCEED THE LESSER OF THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. Neither DMA RADTECH, INC. nor its agents accepts any liability for improper deployment of any canister, and shall not be responsible for the consequences of results derived from same.

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DMA-RADTECH, INC.  
701 Chestnut Street  
TRAINER, PA 19061

THE CENTER

CAPUTO & WICK LTD.  
1150 POWTUCKET AVE.  
RUMFORD RI 02916

C

Date: 09/20/94

### RADON ANALYSIS REPORT

This report is confidential and will not be released to anyone without your permission, except as required by law.

This analysis represents the Radon-222 concentration in the air only at the time of the sampling.

Detector Number . . . : 573138  
Room Tested . . . . . : BASEMENT  
Sample analyzed . . . : 09/19/94 21:14

Your measurement RESULT is 10.1 picocuries/litre

If your result is WITHIN "EPA GUIDELINES FOR ACTION."

You may want to make additional measurements during each of the four seasons, as radon levels can vary. We will send you a reminder in three months.

If you result is ABOVE "EPA GUIDELINES FOR ACTION."

You should not undertake costly repairs or changes based upon this measurement. Please refer to the information provided with this report, which is extracted from A CITIZENS GUIDE TO RADON published by the EPA.

The recommendation by the EPA includes instructions to make measurements of no more than one week in duration, during the four seasons. Depending on the level of your result, you may wish to retest immediately, or within 3 months.

#### LIMITATIONS OF DATA AND PRODUCT LIABILITY

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DMA RADTECH, INC. EXPRESSLY DISCLAIMS ALL LIABILITY FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO DAMAGES RESULTING FROM THE IMPROPER USE OF THE PRODUCT OR THE IMPROPER INTERPRETATION OF THE DATA GENERATED BY THE PRODUCT. DMA RADTECH'S AND ITS AGENT'S SOLE AND EXCLUSIVE LIABILITY AND THE CUSTOMER'S SOLE LIABILITY AND EXCLUSIVE REMEDY WILL NOT EXCEED THE LESSER OF THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. Neither DMA RADTECH, INC. nor its agents accepts any liability for improper deployment of any canister, and shall not be responsible for the consequences of results derived from same.

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Another way to think about the risk associated with radon exposure is to compare it with the risk from other activities. The chart below gives an idea of how exposure to various radon levels over a lifetime compares to the risk of developing lung cancer from smoking and from chest x-rays. The chart also compares these levels to the average indoor and outdoor radon concentrations.

As you look at the chart, be sure to use the proper radon-level column for your results (either WL or pCi/L).

**Radon Risk Evaluation Chart**

pCi/L	WL	Estimated number of lung cancer deaths due to radon exposure (out of 1000)	Comparable exposure levels	Comparable risk
200	1	440-770	1000 times average outdoor level	More than 60 times non-smoker risk 4 pack-a-day smoker
100	0.5	270-630	100 times average indoor level	2,000 chest x-rays per year
40	0.2	120-380	100 times average outdoor level	2 pack-a-day smoker
20	0.1	60-210	10 times average indoor level	1 pack-a-day smoker
10	0.05	30-120	10 times average outdoor level	5 times non-smoker risk
4	0.02	13-50	10 times average outdoor level	200 chest x-rays per year
2	0.01	7-30	Average indoor level	Non-smoker risk of dying from lung cancer
1	0.005	3-13	Average indoor level	
0.2	0.001	1-3	Average outdoor level	20 chest x-rays per year

Before undertaking major modifications to your home, we recommend that you consult with your state radiation protection office to obtain whatever specific advice or assistance they may be able to provide for your particular situation.

State Agencies which can supply you with additional information or guidance:

Alabama	800-582-1866	Illinois	800-325-1245	Montana	406-444-3671	Puerto Rico	809-767-3563
Alaska	800-478-4845	Indiana	800-272-9723	Nebraska	800-334-9491	Rhode Island	401-277-2438
Arizona	602-255-4845	Iowa	800-383-5992	Nevada	702-687-5394	South Carolina	800-768-0362
Arkansas	501-661-2301	Kansas	913-296-1560	New Hampshire	603-271-4674	South Dakota	605-773-3351
California	916-324-2208	Kentucky	502-564-3700	New Jersey	800-648-0394	Tennessee	800-232-1139
Colorado	800-846-3986	Louisiana	800-256-2494	New Mexico	505-827-4300	Texas	512-834-6688
Connecticut	203-566-3122	Maine	800-232-0842	New York	518-458-6451	Utah	801-538-6734
Delaware	800-554-4636	Maryland	800-872-3666	North Carolina	919-571-4141	Vermont	800-640-0601
District of Columbia	202-727-7221	Massachusetts	413-586-7525	North Dakota	701-221-5188	Virginia	800-468-0138
Florida	800-543-8279	Michigan	517-335-8190	Ohio	800-523-4439	Washington	800-323-9727
Georgia	404-894-6644	Minnesota	800-798-9050	Oklahoma	405-271-5221	West Virginia	800-922-1255
Hawaii	808-543-4383	Mississippi	800-626-7739	Oregon	503-731-4014	Wisconsin	608-267-4795
Idaho	800-445-8647	Missouri	800-669-7236	Pennsylvania	800-237-2366	Wyoming	800-458-5847

**How quickly should I take action?**

In considering whether and how quickly to take action based on your test results, you may find the following guidelines useful. EPA believes that you should try to permanently reduce your radon levels as much as possible, based on currently available information. EPA believes that levels in most homes can be reduced to about 0.02 WL (4pCi/L).

**If your results are about 1.0 WL or higher, or about 200 pCi/L or higher:**

Exposures in this range are among the highest observed in homes. Residents should undertake action to reduce levels as far below 1.0 WL (200 pCi/L) as possible. We recommend that you take action within several weeks. If this is not possible, you should determine, in consulting with appropriate state or local health or radiation protection officials, if temporary relocation is appropriate until the levels can be reduced.

**If your results are about 0.1 to about 1.0 WL, or about 20 to 200 pCi/L:**

Exposures in this range are considered greatly above average for residential structures. You should undertake action to reduce levels as far below 0.1 WL (20 pCi/L) as possible. We recommend that you take action within several months.

**If your results are about 0.02 to about 0.1 WL, or about 4 pCi/L to about 20 pCi/L:**

Exposures in this range are considered above average for residential structures. You should undertake action to lower levels to about 0.02 WL (4 pCi/L) or below. We recommend that you take action within a few years or sooner if levels are at the upper end of this range.

**If your results are about 0.02 WL or lower, or about 4 pCi/L or lower:**

Exposures in this range are considered average or slightly above average for residential structures. Although exposures in this range do present some risk of lung cancer, reductions of levels this low may be difficult, and sometimes impossible, to achieve.

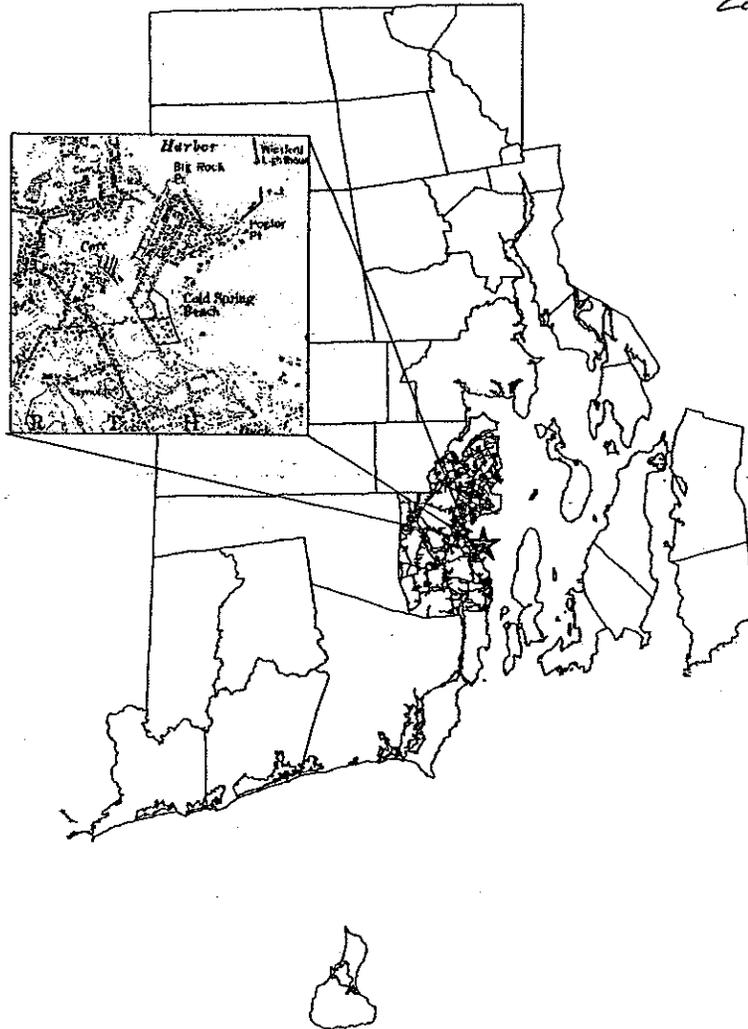
**Remember:** There is increasing urgency for action at higher concentrations of radon. The higher the radon level in your home, the faster you should take action to reduce your exposure.



Ecosystem Solutions, Inc.  
P.O. Box 469  
West Warwick, RI 02893

**Preliminary Data Report**  
**Beach Street / A.P. 90, Lots 1, 3 & 4 and A.P. 91, Lot 137**  
**North Kingstown, RI**

*Note:*  
*Lot 2 merged*  
*w/ lot 4*



Prepared by Brandon B. Faneuf, Principal Biologist

For: Town of North Kingstown  
80 Boston Neck Road  
North Kingstown, RI 02852

Revised  
December 23, 2005

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## PRELIMINARY DATA REPORT

### BEACH STREET

A.P. 90, Lots 1, 2, 3, & 4 and A.P. 91, Lot 137  
NORTH KINGSTOWN, RI

#### 1.0 INTRODUCTION

Ecosystem Solutions, Inc. has completed a site investigation for property ("Property") located north and south of the terminal end of Beach Street; A.P. 90, Lots 1, 2, 3 & 4 and A.P. 91, Lot 137; in North Kingstown, RI. The purpose of this report is to inform you of the extent of regulated Coastal Features on the Property, describe existing site conditions, and potential permitting requirements for the development/redevelopment of the Property.

All opinions expressed by Ecosystem Solutions, Inc. are subject to review, at a minimum, by the Town of North Kingstown and/or the Rhode Island Coastal Resources Management Council ("CRMC").

#### 2.0 SITE DESCRIPTION

##### 2.1 Existing Conditions/Land Use

The Property is located at the terminal end of Beach Street at Cold Spring Beach (Figures 1-8). A.P. 90, Lots 1 through 4 are located to the south of Beach Street while A.P. 91, Lot 137 is located to the north of Beach Street. The Property is bordered by residential properties to the north, south, and west. The West Passage of Narragansett Bay is to the east. The RIGIS land use data for this area classifies the area where the Property is located as "developed recreation (all recreation)."

Beechwood House is located on A.P. 90, Lot 1 in the center of the Property adjacent to Cold Spring Beach. This historic house was built in 1897 by then Rhode Island governor Elisha Dyer. The attached Senior Center located south of the house was approved via CRMC application no. 1978-5-16 and built in 1980. Both buildings are considered the "Senior Center." A narrow connector is located between the two sections of the building. There are two septic systems associated with this lot. The first is associated with Beechwood House itself, and is located on the east lawn in the area of the flagpole. The septic system associated with the Senior Center is located immediately to its west between the Center and the parking lot. Also, a catch basin that receives runoff from the driveway and parking lot for Lots 1 through 4 is located in the southwest corner of Lot 1. This drainage system was approved per CRMC application no. 1987-7-44. The drainage system runs around the southern side of the Senior Center and discharges to the beach to the east of the Center.

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A.P. 90, Lot 2 is located immediately south of Lot 1 and consists of lawn and trees with picnic tables.

A.P. 90, Lot 3 houses the Wickford Art Association Building and the Town Hall Band Stand. The building in which the Wickford Art Association exists was approved via CRMC application no. 1987-7-51 and was determined to be outside of CRMC jurisdiction. This lot is bordered by Beach Street to the north, Cold Spring Lane to the west, and the Community Center to the south.

A.P. 90, Lot 4 is located in the southern portion of the Property and houses the Community Center, parking lot, and picnic area. The entrance to this portion of the Property is located between the Wickford Art Association and Beechwood House and was formerly known as Spring Road. Limited parking is located along the driveway. There are no known applications to CRMC for the Community Center. This is most likely due to the fact that the building is well outside of the 200 foot CRMC jurisdictional boundary.

A.P. 91, Lot 137 is located entirely north of Beach Street. A large gravel parking area is located in the northern portion of Lot 137 with a paved entrance drive along the western Property boundary. An area of lawn with picnic tables, playground, and bath house is located south of the gravel parking lot and east of the entrance drive along Cold Spring Beach.

Utilities on-site include town water and overhead electrical service. Natural gas and sewer service is not available. Stand-alone propane tanks are associated with the Senior and Community Centers, and are used to fuel stoves (personal conversation, John Nelson). No other utilities are known at this time.

A shoreline access easement is located off-site immediately north of the Property. This grass easement path runs from Wright Lane to the Beach (Figures 3 & 5).

According to RIGIS data, the Property is not located within the Wickford Historical District. Further, a personal conversation with Kathleen Carland on November 28, 2005 revealed that Beechwood House is currently *not* listed on the National Register of Historical Places.

The topography of the Property is fairly level throughout with the exception of a rise behind (west of) the Community Center on A.P. 90, Lot 4 (see Figure 1 for USGS Topo map).

## 2.2 Coastal Feature & Waterbody Investigation Methodology

A professional wetland scientist inspected the Property for the presence of wetlands, shoreline features, and associated regulatory areas on November 9, 2005. An inspection

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of previous CRMC filings for the Property was performed on November 13, 2005. Wetland classification was performed in accordance with the Coastal Resources Management Plan ("CRMP"), the Rhode Island Fresh Water Wetlands Act (R.I.G.L. 2-1-18 et.seq.) ("Act), and the Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast ("Regulations").

In addition to the field investigation, USGS 7.5 Minute topographic maps, aerial orthophotos, and FEMA Flood Insurance Rate Maps were reviewed in order to identify and classify areas regulated under the Act and Rules. The Rhode Island Soil Survey was consulted in order to classify soils and identify whether hydric soils are present on the Property. Further, the RI Geographic Information System (RIGIS), maintained by the RI Statewide Planning Program, was used to determine estimated extents, if any, of wetland, surface, and groundwater resources on the property. RIGIS datalayers investigated include, but are not limited to, wetlands, groundwater classification, groundwater reservoirs, surface water protection areas, public water supply reservoirs, sole source aquifers, and community and non-community wellhead protection areas. The Rhode Island Department of Environmental Management ("RIDEM") Online Environmental Resource Map, maintained by the RIDEM Information Management Unit, was consulted in the case of missing or unavailable datalayers in the RIGIS database.

## 2.3 Shoreline Features & Waterbody Types & Locations

### 2.3.1 Waterbodies

#### Narragansett Bay (West Passage)

The West Passage of Narragansett Bay is located immediately east of the Property. Under the most recent CRMC Water Use Category Map, the portion of Narragansett Bay adjacent to the Property is classified as a *Type 2 Water*. Type 2 Waters, as described in Section 200.2 of the CRMP, includes waters in areas with "high scenic value that support low-intensity recreation and residential uses" (Figure 8).

### 2.3.2 Shoreline (Coastal) Features

#### 2.3.2.1 Coastal Beach

Per Section 210.1 of the CRMP, a coastal beach is present between Narragansett Bay and a man-made sea-wall (see below). This beach consists of medium sand and appears to range, on average, between 25 and 75 feet in width depending upon the tide.

#### 2.3.2.2 Manmade Shoreline

Per Section 210.6 of the CRMP, a man-made stone wall (sea-wall) is located immediately west of and abuts the western edge of the beach. This sea-wall was rebuilt in 1993 under CRMC application no. 1992-2-56. It is this Shoreline Feature that marks the most inland extent of such Features and is therefore the point from which jurisdictional setbacks and

---

buffer zones are determined. This information was gained by reviewing previous applications for the Property at the CRMC building in Wakefield, RI.

### 2.3.2.3 Other

A dune exists immediately landward of the Coastal Beach to the north of the Property. Immediately landward of the Dune exists a brackish wetland consisting predominantly of tall reed (*Phragmites australis*). The brackish wetland extends approximately 150 feet inland of the existing sea-wall and immediately north of an existing shoreline easement which exists along the Property's northern boundary. The brackish wetland and to some extent the Dune mark the most inland extent of such Features to the north of the Property and is therefore the point from which jurisdictional setbacks and buffer zones are determined in that area. See Figures 3 & 5 for approximate extents of CRMC jurisdiction on the Property.

## 2.4 Floodplain

According to review of the most current FEMA Flood Insurance Rate Map (Community Panel Number 445404 0013 C, revised June 16, 1992) the portion of the Property adjacent to Narragansett Bay is located within Flood Zone V16 (also referred to as Zone VE) with base flood elevations of 15 and 17 ft. Zone VE corresponds with the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Base flood elevations are derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply. The western portions of the Property are located within Zone A12 (also referred to as Zone AE) with base flood elevations of 13 and 14 ft. Zones AE and A1-A30 are the flood insurance rate zones that correspond to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. In most instances, Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

The portion of the existing Community Center is located within Zone B (also referred to as Zone X500), with the top of the rise behind the Community Center designated as Zone C (also referred to as Zone X). These zones correspond to areas outside the 100-year floodplain, areas outside of 100-year sheet flow flooding where average depths are less than 1 foot, and outside areas of 100-year stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone. See the attached Flood Insurance Rate Map and Figure 7 for details.

All structures must have a first floor elevation *above* the FEMA base flood elevation depicted on the most recent Flood Insurance Rate Map ("FIRM") or as determined by on-site studies (personal conversation, Jack Leyden). As such, first floor elevations for

---

buildings within the V-Zone on-site must be above elevation 15. First floor elevations within Zone AE must be above elevations 13 & 14, respectively (see attached FEMA map for exact locations). The office of the North Kingstown Building Inspector has informed me that they use FEMA maps when determining base flood elevations, which implies that flood elevation datum is most likely determined using the standard National Geodetic Vertical Datum ("NGVD") of 1929.

The Property is located within the Narragansett Bay watershed basin, Narragansett Bay watershed sub-basin.

## 2.5 Soils

Soils on the Property are depicted as **MmA – Merrimac sandy loam, 0 to 3 percent slopes**, and **MmB- Merrimac sandy loam, 3 to 8 percent slopes**.

The MmA complex is located throughout the majority of the Property and consists of nearly level, somewhat excessively drained Merrimac soils. The complex is found on terraces and outwash plains. Areas are irregular in shape and mostly range from 2 to 400 acres. The permeability of this soil is moderately rapid in the surface layer and upper part of the subsoil, moderately rapid to rapid in the lower part of the subsoil, and rapid in the substratum. Included with this soil in mapping are small areas of excessively drained Windsor and Hinckley soils, well drained Agawam soils, and moderately well drained Ninigret and Sudbury soils. Also included are small areas of soils with slopes of more than 3 percent and a few areas of darker colored soils. Included areas make up about 10 percent of this map unit. (Rector, 1981) (Figure 6).

The MmB complex is located in the southwestern portion of the Property and consists of gently sloping, somewhat excessively drained soil on undulating terraces and outwash plains. Areas are irregular in shape and mostly range from 2 to 75 acres. Included with this soil in mapping are small areas of excessively drained Windsor and Hinckley soils, well drained Agawam soils, and moderately well drained Ninigret and Sudbury soils. Also included are small areas of soils that have slopes of less than 3 percent and areas of darker colored soils. Included areas make up about 10 percent of this map unit (Rector, 1981) (Figure 6).

## 2.6 Endangered Species

Using datalayers supplied by the RI Geographic Information System ("RIGIS"), there are no rare or endangered species mapped on the Property.

## 2.7 Special Area Management Plan (SAMP)

The Property is *not* located within a SAMP area.

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### 3.0 OTHER REGULATED AREAS

#### 3.1 Coastal Buffer Zone

A Coastal Buffer Zone is a land area adjacent to a Coastal Feature that is, or will be, vegetated with native shoreline species and which acts as a natural transition zone between the coast and adjacent upland development. A Coastal Buffer Zone differs from a construction setback (see Section 3.2) in that the setback establishes a minimum distance between a shoreline feature and construction activities, while a buffer zone establishes a natural area adjacent to a shoreline feature that must be retained in, or restored to, a natural vegetative condition. The required Coastal Buffer Zone width and requirements are based upon the appropriate land use, size of the lot and the CRMC's designated Water Types (Type 1 – Type 6) and shown in Table 2a of the CRMC *for residential properties*. This does not necessarily apply to the Property since it is considered *developed recreational* (see below).

All Coastal Buffer Zones are measured from the inland edge of the most inland Coastal Feature. If the Coastal Feature accounts for 50-percent or more of the Property, a variance may be granted.

Currently, Buffer Zone requirements for the Property are unknown. A phone conversation with Willam Mosunic, P.E. of CRMC revealed that CRMC would not give comment on Buffer Zone requirements for the Property, which is zoned 'developed recreational.' He would also not comment on any known Shoreline Features for the Property. However, he suggested that the only way to accurately determine appropriate Shoreline Features, Buffer Zones, and Setbacks (see below) was to submit a Preliminary Determination Application with CRMC outlining the various proposed development schemes. In this way, CRMC would be able to give an absolute jurisdictional assessment of the proposed development schemes, as well as any other requirements (e.g. environmental assessments, engineering, etc.) CRMC will require for development of the Property.

#### 3.2 Setbacks

A setback is the minimum distance from the inland boundary of a Coastal Feature at which an approved activity or alteration may take place. A minimum setback of 75 feet from Shoreline Features is required unless the lot is of such a size or configuration so as it is not possible. During the review of the 1978 Senior Center addition, the closest point of the Center was depicted as being 71 feet from the existing sea-wall. During the November 9, 2005 site inspection, the closest point was observed to be 66 feet. This must be taken into perspective, however, since the sea-wall was rebuilt in 1993. Whether it was replaced in the same exact location as the previous sea-wall is unknown since it was not made clear in the 1992 sea-wall repair application.

At present, Setbacks for the Property are unknown. Please see Section 3.1 for a statement regarding how to rectify this.

#### 4.0 PERMITTING REQUIREMENTS

##### 4.1 General

Projects within the scope of the CRMP must comply with all applicable requirements of federal, state, and local statutes and by-laws, in addition to meeting the requirements of the CRMP. Permits from federal agencies may also be required. However, to date, specific permitting requirements for the Property are unknown since it does not fall into a common land use category (e.g. residential). As such, determining specific permitting requirements via the CRMP is difficult at this time. As previously stated, the best course of action in order to determine specific jurisdictional extents and permitting requirements is to submit an application for Preliminary Determination to the CRMC. However, a summary of applicable Sections of the CRMP for the proposed project to date are as follows:

- §100.1
- §210.1
- §210.3
- §210.6
- §210.7
- §320

Should a CRMC Assent ultimately be required as a result of the Preliminary Determination application, normal application requirements include:

- ❖ Certified deed of Property ownership from the local tax assessor.
- ❖ Abutter List
- ❖ Proof that site plans conform to the elements of the local zoning ordinance.
- ❖ Any and all applicable ISDS permits from RIDEM must be obtained (if applicable).
- ❖ Affirmation that the proposed structures will be serviced by municipal sewers: community approval and details of the tie-ins are required (if applicable).

##### 4.2 ISDS Requirements (Subsurface Disposal of Sanitary Sewage)

As a result of talks with Town officials and the project architect, any development scheme will require a *new* septic system permit.

##### 4.3 Other Permit Requirements

As mentioned above, work proposed within regulated wetland areas, at a minimum, require a permit from the CRMC. If work is proposed *on* coastal features, other permits may be required and include, but are not limited to the following:

- ❖ Water Quality Certification. This permit is required in association with Clean Water Act Section 401 and is required for projects involving less than 5,000 ft<sup>2</sup> of fill. The permit is

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obtained from the RIDEM Water Quality Certification Program, and is often issued in conjunction with a wetland permit (below).

- ❖ Programmatic General Permit (PGP). This permit is required in association with Clean Water Act Section 404 and is required when filling or dredging of up to 1 acre of wetland is proposed. The permit is obtained from RIDEM through the Freshwater Wetlands Program, and is administered by the US Army Corps of Engineers and the Environmental Protection Agency.
- ❖ Individual Wetland Alteration Permit. This permit, also required in association with the Clean Water Act Section 404 is required if filling or dredging of over 1 acre of wetland is proposed. The permit is obtained directly from the US Army Corps of Engineers. Given existing site conditions, this permit will likely *not* be required.
- ❖ NPDES Phase I & II Permits. Under the Federal Clean Water Act, The National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating sources of pollution that discharge into waters of the United States. Federal regulations relating to the NPDES Stormwater Permit Program require operators of certain sized construction projects to obtain authorization to discharge stormwater under an National Pollutant Discharge Elimination System (NPDES) construction stormwater permit:
  - ❖ Phase I Stormwater regulations published in 1990 required construction activities that disturbed five or more acres of land to obtain NPDES permit coverage.
  - ❖ Phase II Stormwater regulations, which became effective March 2003, expanded the requirement to obtain permit coverage to include discharges of stormwater from construction sites between 1 and 5 acres.

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## 5.0 CONCLUSION

The following is a summary of CRMC jurisdiction for the Property:

- ❖ The Property abuts the West Passage of Narragansett Bay, which is a Type 2 Water in the vicinity of the Property (Figure 8).
- ❖ The most inland Shoreline Feature identified on-site is a man-made shoreline and consists of a stone wall (sea-wall) (§210.6).
- ❖ A Dune and brackish marsh make up the most inland Shoreline Feature immediately north of the Property that affects total CRMC jurisdiction on the Property (Figures 3 & 5).
- ❖ The required Coastal Buffer Zone & Setback for proposed development is currently unknown and a Preliminary Determination Application will be required to clarify jurisdictional extents and permitting requirements. *Because the applicant will be a municipality, there will be no fee for the Preliminary Determination application.*
- ❖ The FEMA Flood Insurance Rate Map for the Property depicts base flood elevations for the Property. The BFE within the V-Zone is elevation 15, while the BFE for Zone AE is elevation 14 and 13. As such, first floor elevations for any structure built within the flood zones must be *above* these flood elevations.
- ❖ For each development scheme proposed to date (not specifically mentioned in this report), a new ISDS permit will be required.

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## REFERENCES

CRMC. 1996. Coastal Resources Management Plan, with revisions. Wakefield, RI.

CRMC. 2000. Rules and Regulations Governing the Protection and Management of Wetlands in the Vicinity of the Coast. Wakefield, RI.

Carland, Kathleen- Sr. Center Director. November 28, 2005. Personal conversation.

Leyden, Jack- NK Building Official. December 21, 2005. Phone conversation.

Mosonic, William. November 14, 2005. Phone conversation.

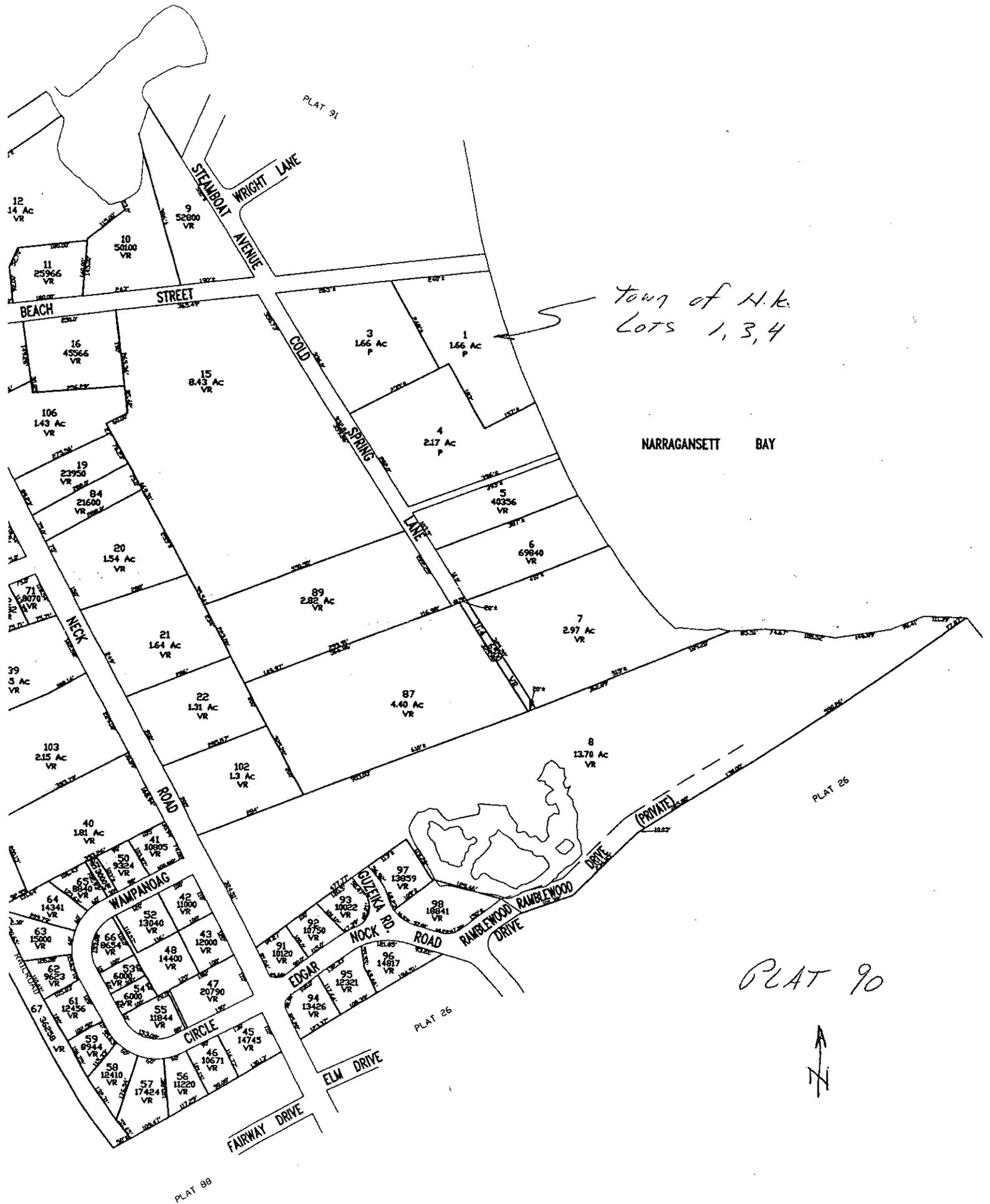
Nelson, John- NK Facilities Director. December 21, 2005. Personal conversation.

Rector, D. 1981. Soil Survey of Rhode Island. United States Soil Conservation Service. United States Department of Agriculture. Washington, D.C. 200pp. & maps.

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## REFERENCES

- CRMC. 1996. Coastal Resources Management Plan, with revisions. Wakefield, RI.
- CRMC. 2000. Rules and Regulations Governing the Protection and Management of Freshwater Wetlands in the Vicinity of the Coast. Wakefield, RI.
- Carland, Kathleen- Sr. Center Director. November 28, 2005. Personal conversation.
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- Nelson, John- NK Facilities Director. December 21, 2005. Personal conversation.
- Rector, D. 1981. Soil Survey of Rhode Island. United States Soil Conservation Service. United States Department of Agriculture. Washington, D.C. 200pp. & maps.



Town of N.K.  
Lots 1, 3, 4

NARRAGANSETT BAY

PLAT 90



PLAT 88



S.C. - Fire Code Inspection

10/28



**TOWN OF  
NORTH KINGSTOWN, RHODE ISLAND**

**FIRE DEPARTMENT  
PUBLIC SAFETY BUILDING  
8150 POST ROAD  
NORTH KINGSTOWN, R.I. 02852**

Phone: (401) 294-3346 EXT. 7208  
Fax: (401) 294-4180

November 3, 2008

To: Town of North Kingstown/ Senior Center  
10 Beach St  
North Kingstown Rhode Island

From: Gordon Walsh Fire Marshal  
Re: Code Compliance Inspection

Enclosed is a list violations found during the inspection of the property located at 10 Beach Street on October 31, 2008.

Under the authority granted by section 23-28.2-20.1 of the Rhode Island State Fire Safety Code, you are hereby notified that the violations cited shall be corrected as soon as possible but not later than 30 days from the receipt of this notice.

If you feel that there will be practical difficulties in correcting the violations or if for any reason you wish to have a hearing on the violations, you may apply in writing to the State Fire Safety Code Board of Appeal and Review for a variation or to have your concerns addressed. Applications for variations are done on a separate form available from the Board of Appeal and Review and the State Fire Marshal's office. Requests for variation or hearing before the Fire Safety Code Board of Appeal and Review must be submitted within 30 days of the receipt of this notice. Failure to apply within the 30 day period will cause this notice to become a compliance order and will subject you to prosecution under the Rhode Island Fire Safety Code should you fail to correct all violations.

- 1.16 Notice of Violations and Penalties.
  - 1.16.1 Whenever the AHJ determines violations of this Code, a written notice shall be issued to confirm such findings.
  - 1.16.2 Serving Notice.
    - 1.16.2.1 Any order or notice issued pursuant to this Code shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service, by mail, or by delivering the same to, and leaving it with, some person of responsibility upon the premises.

All existing buildings and structures, and those buildings and structures for which a building permit was issued prior to February 20, 2004, shall be subject to the provisions of the Rhode Island Uniform Fire Code addressing the existing occupancy.

**Building Owner:** Town of North Kingstown  
**Location:** Same as above  
**Inspected By:** Fire Marshal Gordon Walsh  
Asst. Fire Marshal Michael LeClair  
**Basis for inspection:** Code compliance

**Any violation, deficiency or requirement, which may have been overlooked in the course of this inspection, is also subject to correction under the provisions of any applicable code.**

### **Building Description**

This building has been inspected under NFPA 1, Uniform Fire Code 2003 Edition, and NFPA 101, Life Safety Code 2003 Edition, Chapter 13 Existing Assembly. This building is a three story with a basement wood frame unprotected Type V structure. This building has seven thousand, six-hundred and seventy-five (7,675) square feet. Based on a usable square footage of 3369, the maximum occupancy has been calculated to be 465 persons per **NFPA 101, 7.3.1.2**. This building is used as a senior center; this building has a kitchen with an ansul system.

### **Deficiency/Deficiencies**

- 1. The maximum occupancy of this building is 465 people. Sprinklers are required in all assembly occupancies with an occupancy load of greater than 300.**

#### **RILSC NFPA 101 Amendment 13.3.5.1**

All existing places of assembly shall be completely protected by an approved system of automatic sprinklers installed and maintained in accordance with NFPA Standard 13, 2002 edition, and its related standards pursuant to the schedule outlined in section 13.3.5.1.1.

#### **RILSC NFPA 101 13.3.5.1.1**

All places of assembly with occupancy loads of more than 300 were to be completely protected by an approved system of automatic sprinklers, installed and maintained in accordance with NFPA Standard 13, 2002 edition, and its related standards, on or before July 1, 2005.

2. **There is wood paneling throughout the building and wainscoting type material that is of an unknown rating. There is also a marlite type material in the stairwell.**

RILSC NFPA 101 13.3.3 Interior Finish.

13.3.3.1 Interior finish shall be in accordance with Section 10.2.

13.3.3.2 Interior wall and ceiling finish materials complying with Section 10.2 shall be Class A or Class B in all corridors and lobbies and shall be Class A in enclosed stairways.

13.3.3.3 Interior wall and ceiling finish materials complying with Section 10.2 shall be Class A or Class B in general assembly areas having occupant loads of more than 300, and shall be Class A, Class B, or Class C in assembly areas having occupant loads of 300 or fewer.

3. **The Fire Alarm system in this building is not compliant with the Rhode Island Uniform Fire Code at this time. The Fire Alarm pull stations are not double action, some are not resettable by a key, and there are different brands of pull stations in the building, so they are not keyed alike. The corridors and the top of all stairwells require smoke detectors. There are not any fire alarm horn strobes in the building or strobes in any of the bathrooms. Repairs to this system should not be made a new system is required. Pull stations are required at all exit doors and stairwells.**

4. **The street address is not posted per town ordinance.**

RIUFC NFPA 1 10.13 Fire Protection Markings.

10.13.1 Premises Identification.

10.13.1.1 New and existing buildings shall have approved address numbers placed in a position to be plainly legible and visible from the street or road fronting the property.

5. **Emergency lighting is disrepair, the second floor battery pack is not working, and exterior heads are required at all exit doors.**

RIUFC NFPA 1 10.4.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of this Code, such device, equipment, system, condition, arrangement, level of protection, or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the AHJ.

RILSC NFPA 101 7.8 Illumination of Means of Egress.

7.8.1 General.

7.8.1.1\* Illumination of means of egress shall be provided in accordance with Section 7.8 for every building and structure where required in Chapter 11 through Chapter 42. For the purposes of this requirement, exit access shall include only designated stairs, aisles, corridors, ramps, escalators, and passageways leading to an exit. For the purposes of this requirement, exit discharge shall include only designated stairs, aisles, corridors, ramps, escalators, walkways, and exit passageways leading to a public way.

6. **There is excessive combustible storage in the basement.**
7. **There is improper use of extension cords in the greenhouse.**
8. **There is an electric outlet in to close proximity to the sink in the basement area, this is an electrical hazard.**
9. **The stairwell in the new basement is obstructed by storage at the top of the stairs.**

**RILSC NFPA 101 7.1.10 Means of Egress Reliability.**

7.1.10.1\* Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.

10. **The corridor leading to the fire escape on the second floor is being used as storage.**

**RILSC NFPA 101 7.1.10 Means of Egress Reliability.**

7.1.10.1\* Means of egress shall be continuously maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.

11. **There are penetrations and a louver for make up air that make the furnace room not a rated room as required.**

**RILSC NFPA 101 13.3.2.1.2 Rooms or spaces for the storage, processing, or use of materials specified in 13.3.2.1.2(1) through 13.3.2.1.2(3) shall be protected in accordance with the following:**

(1) Separation from the remainder of the building by fire barriers having a fire resistance rating of not less than 1 hour or protection of such rooms by automatic extinguishing systems as specified in Section 8.7 in the following areas:

(a) Boiler and furnace rooms, unless otherwise protected by the following:

i. The requirement of 13.3.2.1.2(1)(a) shall not apply to rooms enclosing furnaces, heating and air-handling equipment, or compressor equipment with a total aggregate input rating less than 211 MJ (200,000 Btu), provided that such rooms are not used for storage.

12. **The second and third floors have holes, penetrations, missing sections of walls and ceilings. The stairs to the third floor appear to be structurally unsound; the treads are pulling away from the wall.**

RIUFC NFPA 1 4.1.4.2.3 Structural Integrity. The facility shall be designed, constructed, protected, and maintained, and operations associated with the facility shall be conducted, to provide a reasonable level of protection for the facility, its contents, and adjacent properties from building collapse due to a loss of structural integrity resulting from a fire.

13. **This office is requiring the conversion to a radio master box.**

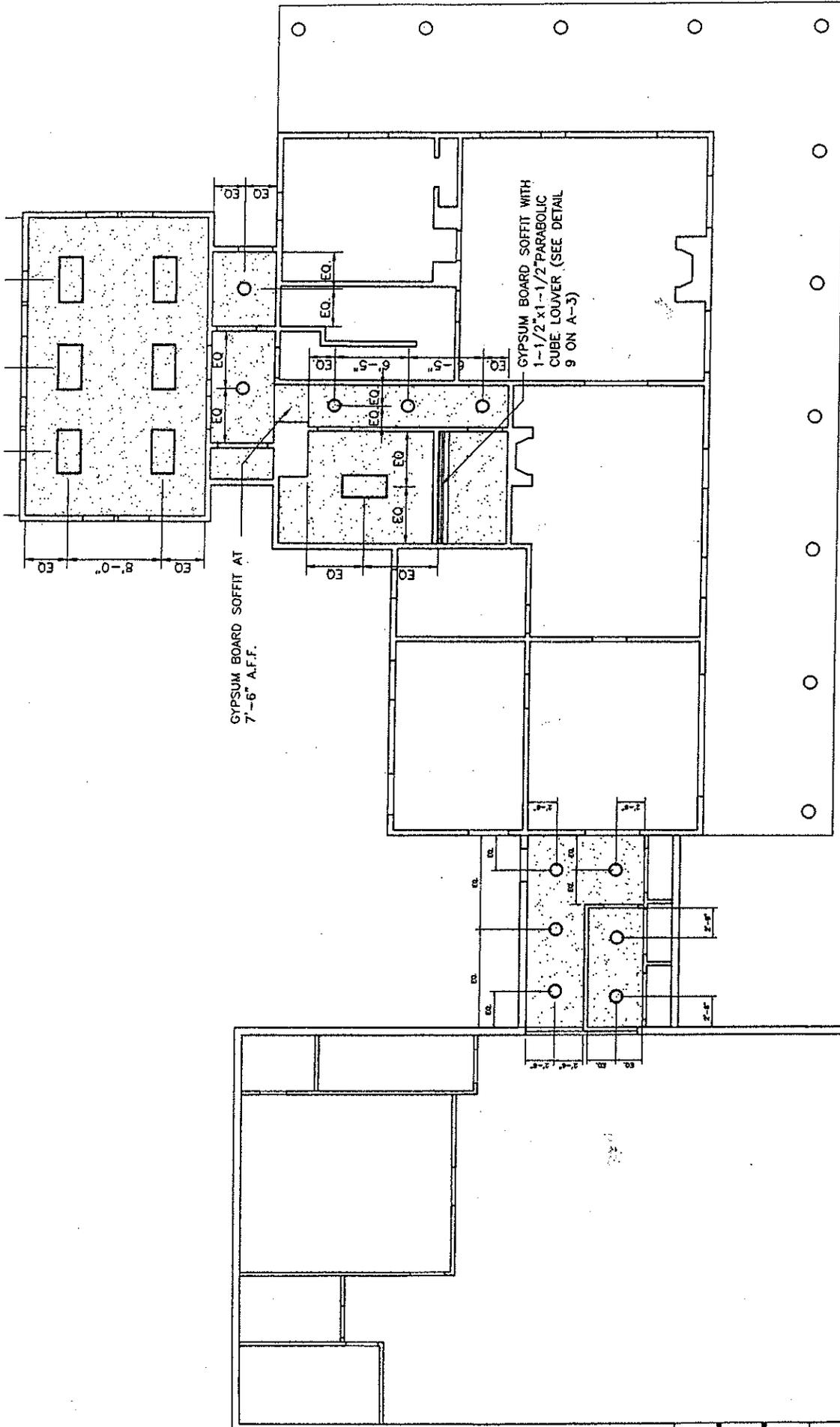
The North Kingstown Fire Department is in the process of upgrading the way in which municipally connected fire alarm systems are transmitted. This has become necessary due to the fact that the existing municipal fire alarm cable plant is becoming increasingly unreliable. Rather than continuing to patch a failing system, the Department has opted for a more reliable means of monitoring these fire alarm systems.

The first step in this process was, since January 1, 1998, all new and renovated buildings, which are required to be municipally connected, have been connected using a Radio box. All new and existing buildings in Quonset Point/ Davisville and all buildings south of Hamilton School have or will be connected by the Summer of 1999. The next phase will be to convert the remaining buildings by December, 2006.

These facilities are required to be municipally connected according to the Rhode Island Fire Safety Code. These buildings are now municipally connected to the Fire Department thru fire alarm cables; the Radio box transmits thru radio signals. This is an upgrade that is being required to be done for this and similar facilities. Specification sheets for the Radio box are included with this document.

**Fire Code Violations will have an adverse effect on licenses and permits issued by the Town of North Kingstown and the State of Rhode Island.**

**Gordon Walsh  
Fire Marshal**



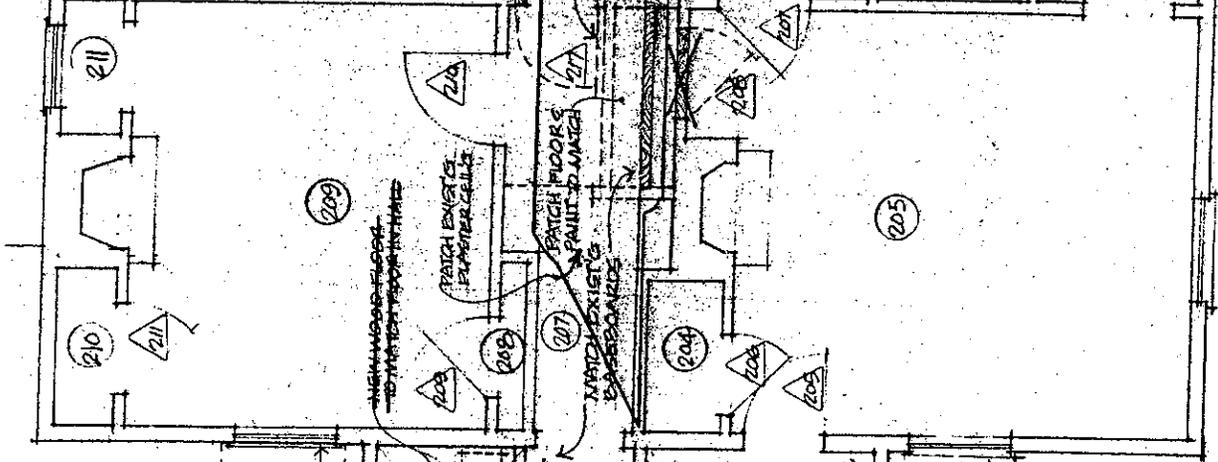
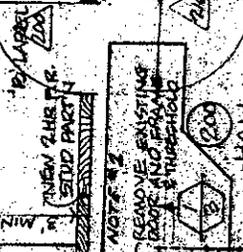
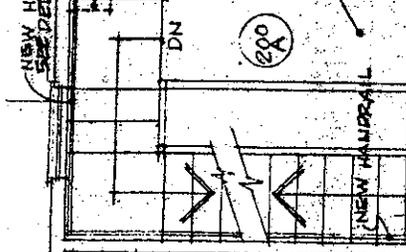
SENIOR CENTER  
1<sup>ST</sup> FLOOR

1/8" = 1'

NEW HANDRAIL  
SEE DETAIL SHEET

REMOVE EXISTING PAINT  
AND PATCH AS REQUIRED

REMOVE EXISTING FLOOR  
FINISH MATERIAL & REFI-  
NISH FLOOR AS DIRECTED



PROVIDE & INSTALL  
NEW STEEL FIRE  
ESCAPE

PROVIDE & INSTALL NEW FIXED  
SASH WITH WIRED GLASS OVER  
EXISTING WINDOW

REMOVE FINISHES  
PATCH AS REQ'D  
MATCH TRAILER

REMOVE EXISTING  
DOOR AND FRAME  
& THRESHOLD

PATCH FLOOR'S  
PAINT & WAX

REMOVE EXISTING  
DOOR AND FRAME  
& THRESHOLD

ALTERNATE PLAN OF ROOM 208  
AS FUTURE WOMEN'S ROOM  
WOULD INCLUDE REMOVING DOOR  
#205 & FRAME & BLOCKS UP OPEN-  
ING, ETC. REMOVING TUB & RELO-  
CATING LAV.

ROOF BELOW

2ND FLOOR

REMOVE EXISTING PAINT  
& PATCH

NEW STAIR BRACKETS AS  
HELD IN PLACE AT ROOF AS  
REQ'D.

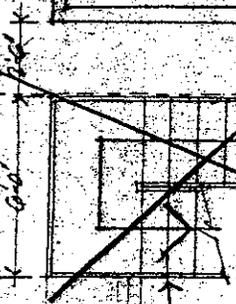
REMOVE EXISTING  
PARTITION

NEW HANDRAIL  
AS SHOWN

REMOVE EXISTING  
PARTITION

BRACKETS EXISTING  
INSTALL NEW DOOR  
INTERLOCK THESE DOOR

REMOVE EXISTING  
PARTITION  
INSTALL NEW DOOR  
INTERLOCK THESE DOOR



7

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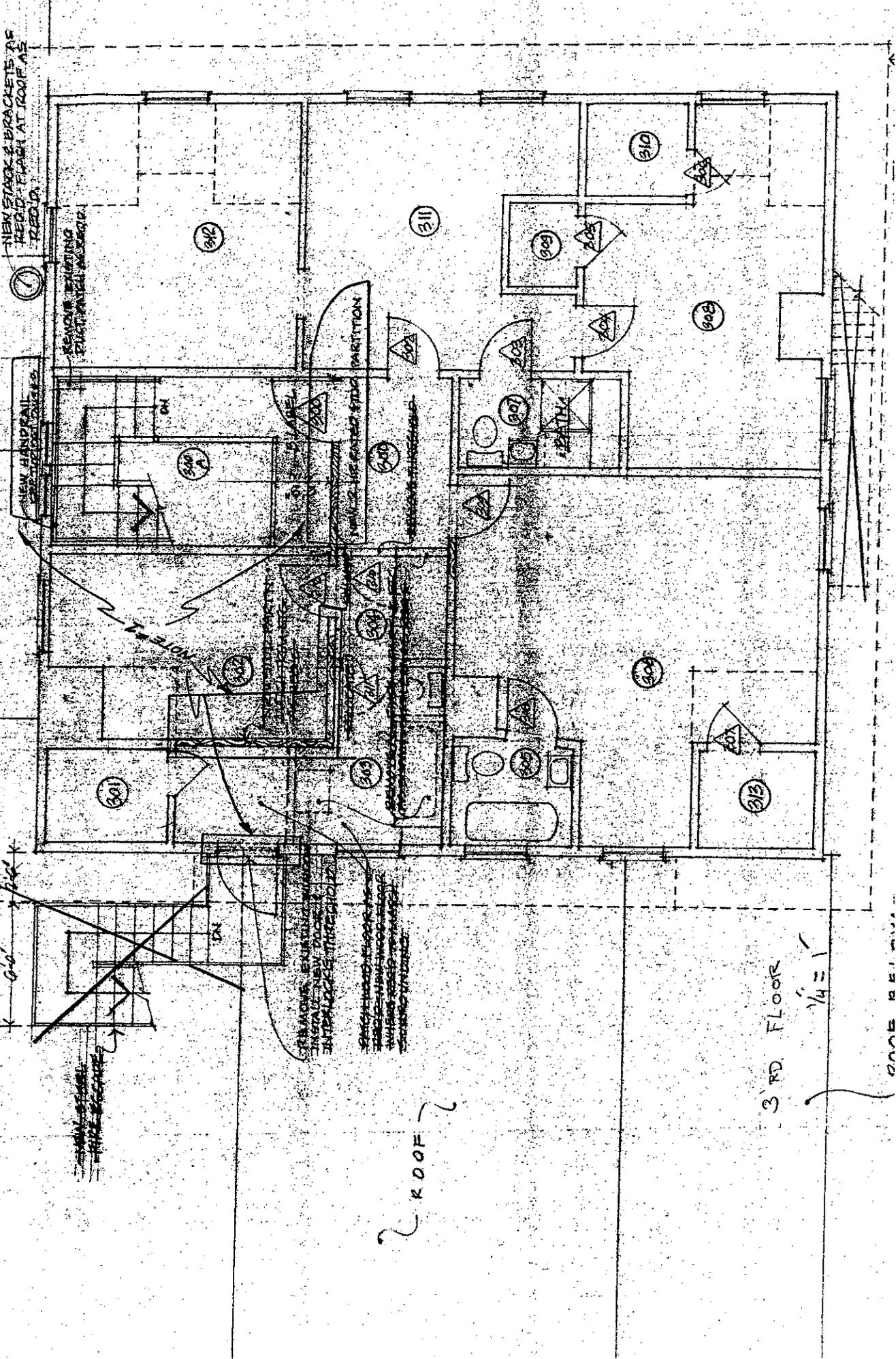
313

3 RD. FLOOR

1/4" = 1'

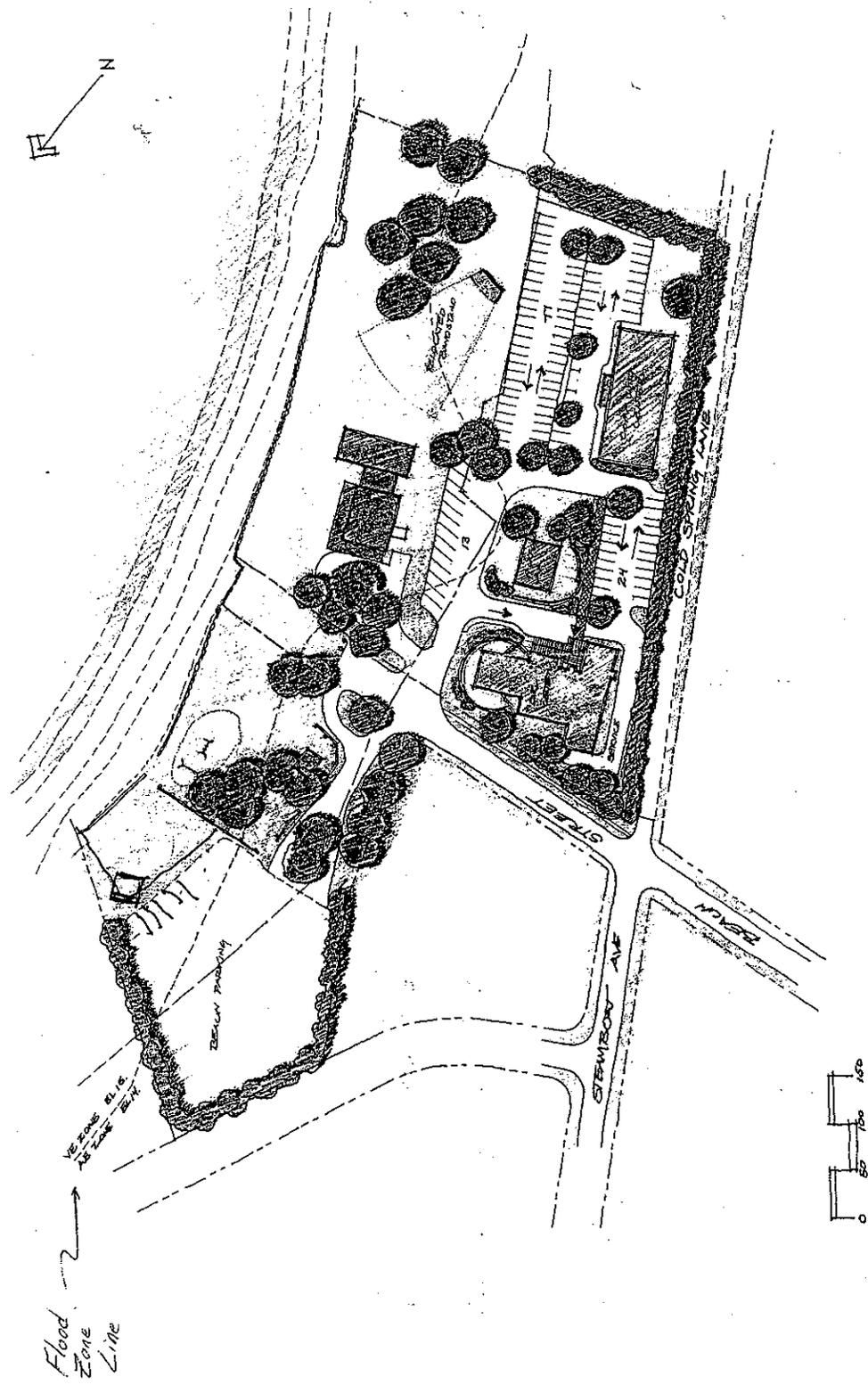
DATE REVISION

2 ROOF

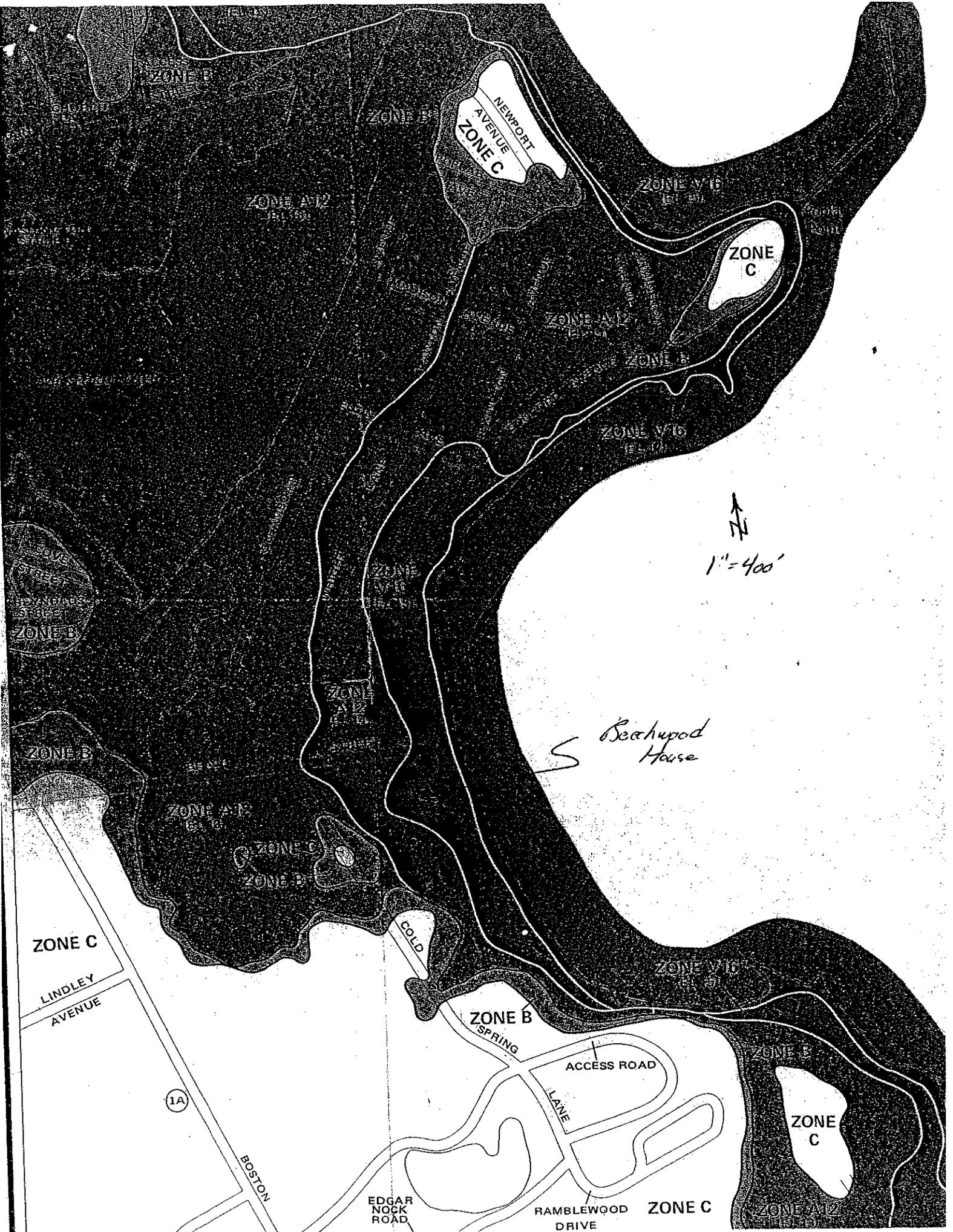


**PRELIMINARY SITING ALTERNATIVE 2A REVISION**

North Kingstown Senior Center



GRAHAM/MEUS



NEWPORT AVENUE  
ZONE C

ZONE C

↑  
N  
1" = 400'

Beachwood House

ZONE C

LINDLEY AVENUE

1A

BOSTON

COLD

ZONE B

SPRING

ACCESS ROAD

LANE

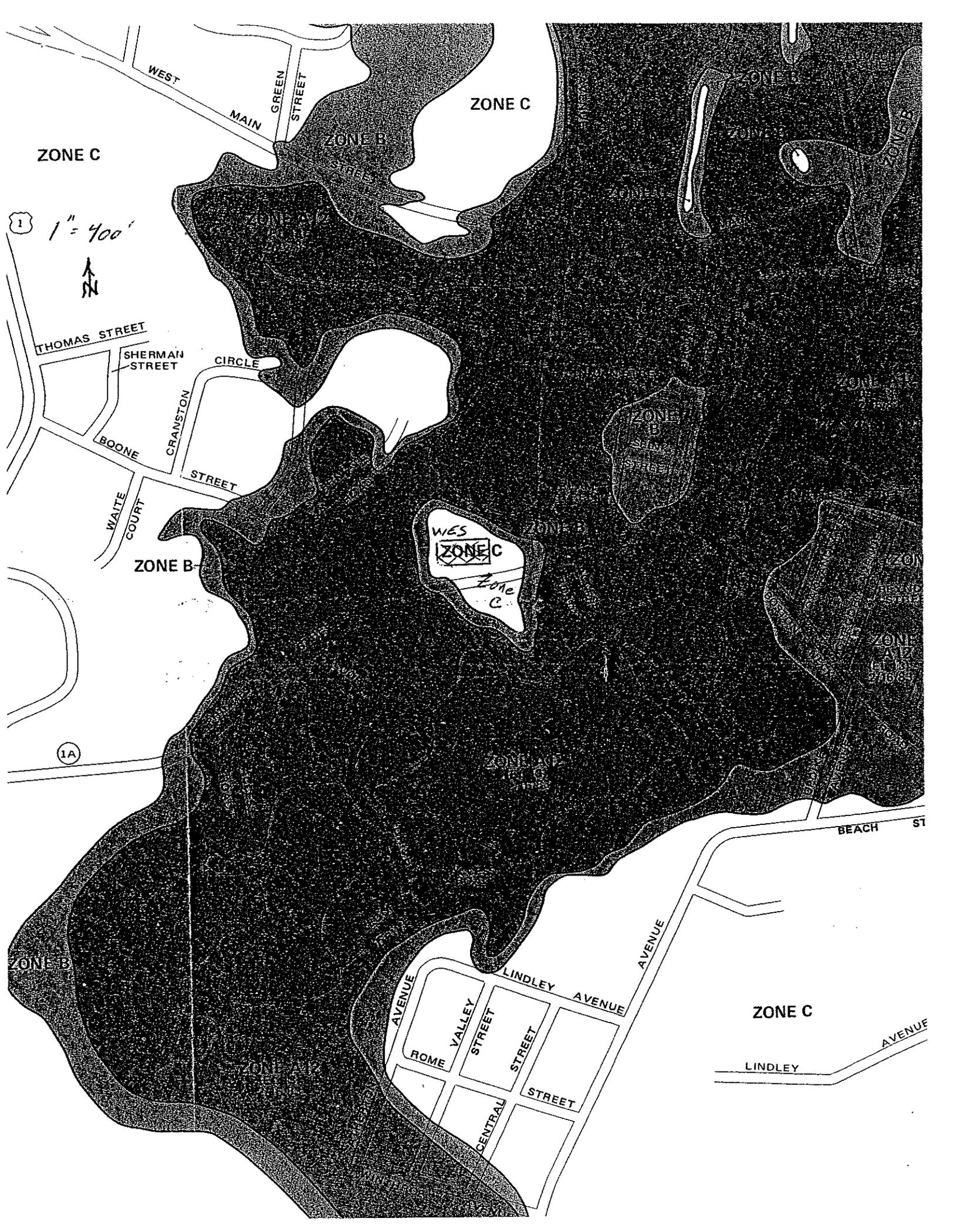
RAMBLEWOOD DRIVE

EDGAR NOCK ROAD

ZONE C

ZONE C

ZONE A12



ZONE C

ZONE C

ZONE B

ZONE B

ZONE B

ZONE B

1" = 400'



THOMAS STREET

SHERMAN STREET

CIRCLE

BOONE

CRANSTON STREET

STREET

WAITE COURT

ZONE B

WES  
ZONE C

Zone C

ZONE B  
SHERMAN STREET

ZONE

BEACH ST

ZONE C

LINDLEY

AVENUE

AVENUE

VALLEY STREET

ROME

STREET

STREET

STREET

CENTRAL

STREET

LINDLEY AVENUE

AVENUE