

# Nordic Aquafarms

## Visual Assessment Report

Prepared for: Maine Department of Environmental Protection



April 5, 2019  
Project # 18076-00

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### INTRODUCTION

This report presents the Visual Assessment completed for the construction of the Nordic Aquafarms (NAF) land-based aquaculture facility in Belfast, Maine, to the Maine Department of Environmental Protection (MEDEP). The new NAF facility will be located on or near the former site of the Belfast Water District and adjacent acquired lands west of U.S. Route 1 at the southernmost end of the city. The Visual Assessment (VA) was completed to evaluate whether the new facility will have an unreasonable adverse effect on existing uses and scenic character, and, specifically, whether it will unreasonably interfere with views from “established public viewing areas” in accordance with the requirements of MEDEP Rules Chapter 315 Assessing and Mitigating Impacts to Existing Scenic and Aesthetic Uses; and similar requirements of City of Belfast Code of Ordinances Chapter 90. Site Plans. Reference is also made herein to language and definitions found in MEDEP Chapter 400 Solid Waste Management Rules: General Provisions as it expands upon and provides greater definition of “public” resources. Inclusion of and reference to Chapter 400 reference is intended for clarification, only.

Chapter 315 defines Scenic Resource as “Public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities. The attributes, characteristics, and features of the landscape of a scenic resource provide varying responses from, and varying degrees of benefits to, humans.” As defined in MEDEP Chapter 400.1, ““Public viewing area” means an area designated for the public to view scenic areas, historical sites, unusual natural features or public monuments. These areas include but are not limited to scenic highways; public easements; scenic turnouts; public monuments; and national, state or municipal parks.”

The NAF project is being reviewed for a Tier III permit application under the Natural Resource Protection Act for wetland impact and the Site Location of Development Act for new development.

This VA confirmed that the proposed development will satisfy the above-referenced standards.

### EXECUTIVE SUMMARY

This proposed NAF facility has been studied through on-the-ground photographic documentation, use of survey-located test balloons at proposed building locations, and computer-generated photomontage of existing conditions and computer based building modeling, and line-of-sight profile creation. Portions of the new development will be visible from traveled public ways (not defined as “public viewing areas”) including U.S. Route 1 / Northport Avenue and Perkins Road. Disturbed areas not otherwise treated will be planted to naturalize them with a mix of evergreen and deciduous species to add visual buffer. Two publicly accessible trails (“viewing areas”), the Little River Community Trail (Belfast) and the McLellan-Poor Preserve (Northport) lie within 2,000 feet of the new development. A minimum of 250 feet of dense, mature, mixed-growth vegetation owned by the City of Belfast and to remain undisturbed, lies between viewer/user vantage points on those trails and the new development, providing effective visual screening.

Therefore, the NAF facility is determined to have “no unreasonable adverse effect on existing uses and scenic character”, will not “unreasonably interfere with views from established public viewing areas”, nor will it “unreasonably interfere with existing scenic and aesthetic uses of a scenic resource”..

### VISUAL ASSESSMENT RERPORT

#### INTRODUCTION

SMRT, Inc. (SMRT) has been retained by NAF to conduct a visual impact analysis in accordance with Maine Department of Environmental Protection (MEDEP) and, as applicable, City of Belfast licensing requirements as stated above and elsewhere in this application. The following details and summarizes the process, findings, and conclusions of this analysis.

#### BACKGROUND

NAF acquired the subject parcel from the Belfast Water District and abutting landowners after conducting a site selection process for location of a new land-based aquaculture facility. SMRT was retained to provide professional design and engineering services in support of the new development. These services include site and building planning and design, and site environmental regulatory permitting assistance.

#### PROCESS OVERVIEW

Mr. Johnson, a registered landscape architect since 1982, has practiced in the state of Maine since 1986. Prior to that, his experience in visual impact analysis included work on the George Washington National Forest with the U.S. Forest Service based in Harrisonburg, VA, utilizing the Bureau of Land Management VIA methodology. He was involved with the VIA for creation and expansions of the Juniper Ridge Landfill in Old Town, Maine.

Preparation of this study included the following:

1. Photographic documentation of site and surrounding existing conditions.
2. Temporary installation of weather balloons to model proposed maximum elevation of selected buildings.
3. Assessment of potential viewpoints and photo-documentation of the site from them (if visible) with temporary balloon installation in place.
4. Integration of CAD generated modeling of the proposed buildings into photo-documentation of the site.
5. Assessment of potential viewpoints through line-of-sight profile creation.
6. Assessment of potential visual impact.
7. Reporting of findings, conclusions, and recommendations.

### METHODOLOGY

This assessment is conducted in the manner of an “expert study” wherein practices previously defined and accepted in the industry are employed. The methods utilized for this study and assessment of the proposed expansion are as follows.

- a. Computer Model: New buildings and proposed topography were modeled in AutoCAD Revit computer modeling software. Selected vantage points were identified and views created that accurately simulate the appearance of the new facility.
  - b. Physical Simulation: Multiple 5.5-foot diameter orange weather balloons were placed at selected corners of proposed buildings to “lock in” the computer model in photos of the existing site from external viewing points located on U.S. Route 1 and Perkins Road. The balloons on the corners of Building 2 were set to a height corresponding to the maximum height of 45 feet as allowed by city ordinance and the modeling adjusted accordingly to reflect the 33-foot height at the parapets. Please refer to attached location map.
  - c. Photographic Documentation: Potential viewing locations identified and photographs taken on two separate occasions. At locations with views to the new facility and confirmed by balloon simulation, photographs were taken to simulate “normal” viewing angles and heights. “Normal” vision is best simulated using a 58 mm lens with a standard 35 mm camera or its modern equivalent, the digital single-lens reflex camera with full-frame sensor, as described below.
    - Time/conditions: Sites were visited and photographs captured on October 5, 2018 and February 8, 2019. Weather conditions were clear and sunny on both occasions. Photographing in October established a “best case” condition with full leaf, and in February was deemed for “worst case” conditions where, because of lack of leaf cover, the new facility could most readily be seen.
    - Instrument:
      - Camera: Canon 6D DSLR (digital single-lens reflex with full-frame sensor); 21 megapixel
      - Image format: Initial image capture in camera RAW file format
      - Lens: Canon EF 50 mm f1.8.
      - Focal length: 50 mm (“normal” view)
      - Exposure: ISO 400 (typical). NOTE: ISO varied based on conditions.
      - Aperture: f8 (typical) NOTE: Aperture varied based on conditions.
      - Shutter speed: varies
      - Height of instrument:
        - “eye level” (standing): 5’-8”
- Images were taken at each location with camera hand held. A height of 5’-8” is used to simulate eye level for a 6-foot tall individual.

- d. Photographic Simulation: View locations from which the new development could be seen were recorded and entered into the AutoCAD computer model. From them, computer-generated views of the proposed building development were created and rendered. These views were then exported as image files, rendered using Adobe Photoshop CC software to represent building mass and lighting, then combined as a photomontage with the corresponding photographs taken in the field to create a simulation of how the facility will appear. Please refer to attached locus map (Figure 1).
- e. Line-of-sight Profile: GIS and ground-surveyed topography were combined to assess potential viewpoints from vantage points on the south side of the Belfast Water District Reservoir Number One and the height of land on U.S. Route 1 / Northport Avenue approximately 2,000 feet south of the project site. For the purpose of this study the height of existing tree cover was conservatively estimated at 75 feet. (NOTE: Surveyor assessment of height of existing vegetation in the vicinity of the head of the Little River Community trail indicated heights of 75 to 90 feet.) Please see attached diagrams (Figures 10 – 11).
- f. Assessment: The resulting photographic simulations were assessed based upon factors including contrast/congruity, scale, form, orientation, line, color, and texture.

### FINDINGS

Viewpoint locations:

The two following locations can be defined as “public viewing areas”.

- a. Little River Community Trail: This publicly accessed hiking trail is administered by the Belfast Bay Watershed Coalition and is accessed via the NAF property. It is located within the 250-foot zone on the north side of Belfast Water District Reservoir #1, which was retained by the city. The trail generally is near the reservoir shoreline with occasional turns upslope. The trail was walked to a point approximately 1,200 feet into the site from the existing trailhead. Photos were taken at selected vantage points at existing drainage ways (see Figures 12 - 15). The existing vegetation is typical of a mixed growth, evergreen/deciduous stand of varying ages of succession from historical clearing. Overall, the density of the vegetation quickly occludes views to objects more than approximately 100 feet distant. To illustrate this, a photo was taken approximately 200 feet in from the parking area looking upslope. A safety-green vest was hung from a tree at approximately 100 feet from the shoreline. This was the farthest point beyond which the vest could not be seen (please see Figure 18).
- b. McLellan-Poor Preserve: Located in Northport on the south side of Belfast Water District Reservoir #1, this land and trail is accessed via a public parking lot and trailhead off the north side of U.S. Route 1 and is administered by the Coastal Mountains Land Trust. The trail follows the shoreline for approximately 500 feet and otherwise traverses the adjoining woods. Photos were taken on the Reservoir Trail at the Lookout and to the west (please see Figures 16 – 17). The north shore can be viewed with clarity from the Lookout at an elevation of approximately 12+ feet above water level. Elsewhere, views are partially obscured by intervening vegetation.

The following locations along public ways were identified (please refer to attached locus map and images; Figures 1 - 9):

- a. Perkins Road: Two vantage points with views to the northern edge of the site were documented. A broken line of vegetation exists at the property edge for approximately half (eastern) of the proposed Building #1. Solid vegetation exists for the western half. The building finished floor elevation is at existing grade at the eastern end and approximately 10 feet below existing grade at the western end.
- b. U.S. Route 1 / Northport Avenue: Primary views into the site over intervening cleared land can be gained when approaching from the north, and from the main site entrance. Distant views (> 2,000 feet) are possible from a rise on Route 1 south of the site in Northport.

### CONCLUSIONS

General: The proposed new development will be constructed in accordance with all City of Belfast space and bulk requirements for the zone. It will not be dissimilar in line, form, and mass from neighboring development to the northeast. Where the proposed development is visible from public ways, it will be effectively screened over time as proposed vegetative screening matures.

Views from Public Viewing Areas: The density of existing vegetation between potential viewing locations and the proposed development effectively screens views from vantage points along the trails around the reservoir. For the purpose of this study, it is presumed that the land held by the City of Belfast and the Coastal Mountains Land Trust will be so in perpetuity, therefore, vegetation will remain and mature, providing a long-lasting and increasingly dense visual buffer.

View from public ways:

- a. Perkins Road: Existing vegetation will be preserved within 40-feet of the northern property line per city requirement. Disturbed areas varying in width from approximately 25 to 50 feet will be revegetated with a mix of evergreen and deciduous woody plant species to naturalize the area and reestablish tree cover.
- b. U.S. Route 1 / Northport Avenue – Southbound: Views west to the new facility (principally Building 1) across intervening properties by viewers traveling south on Rt. 1 will exist primarily in the winter when deciduous trees at the property edge are barren. New evergreen trees will be planted in this area to create increased visual buffering.
- c. U.S. Route 1 / Northport Avenue – Northbound: Views into the facility at the entrance drive area will exist, principally for northbound travelers. The area between the new Building #8 and the road will be augmented with earth berming and revegetated with a mix of evergreen and deciduous woody plant species to naturalize the area and reestablish tree cover.

Therefore, and as presented herein, the proposed new development will not have an unreasonable adverse effect on existing uses, scenic character, and scenic resources in the area, and will not unreasonably interfere with views from established public viewing areas.

Figure 1

PERKINS RD. WEST VIEW

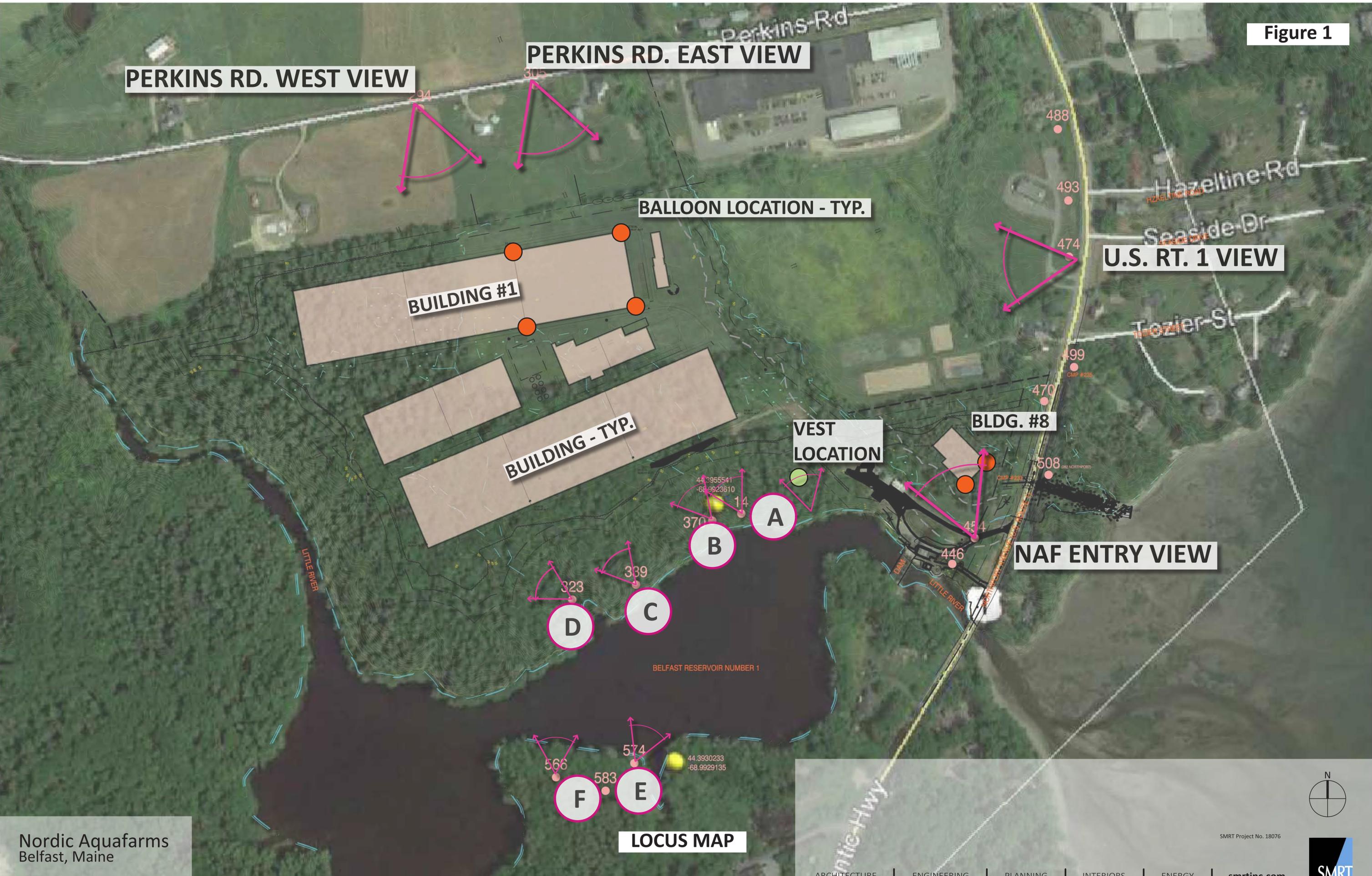
PERKINS RD. EAST VIEW

BALLOON LOCATION - TYP.

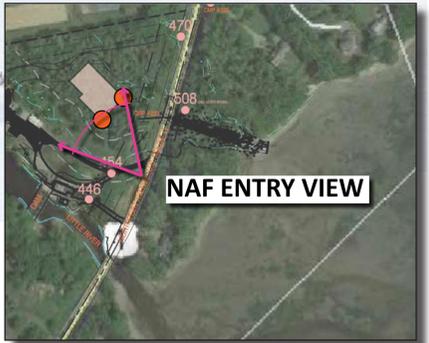
U.S. RT. 1 VIEW

NAF ENTRY VIEW

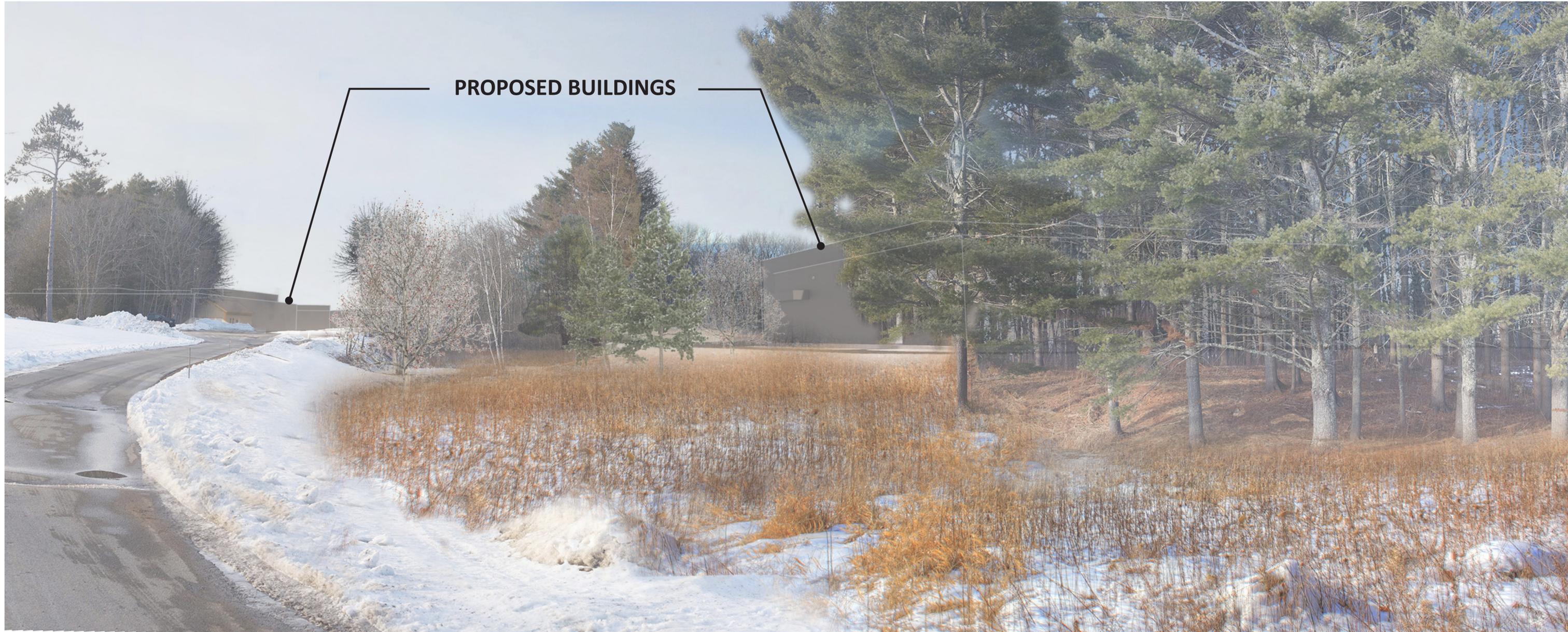
LOCUS MAP



Nordic Aquafarms  
Belfast, Maine



Locus





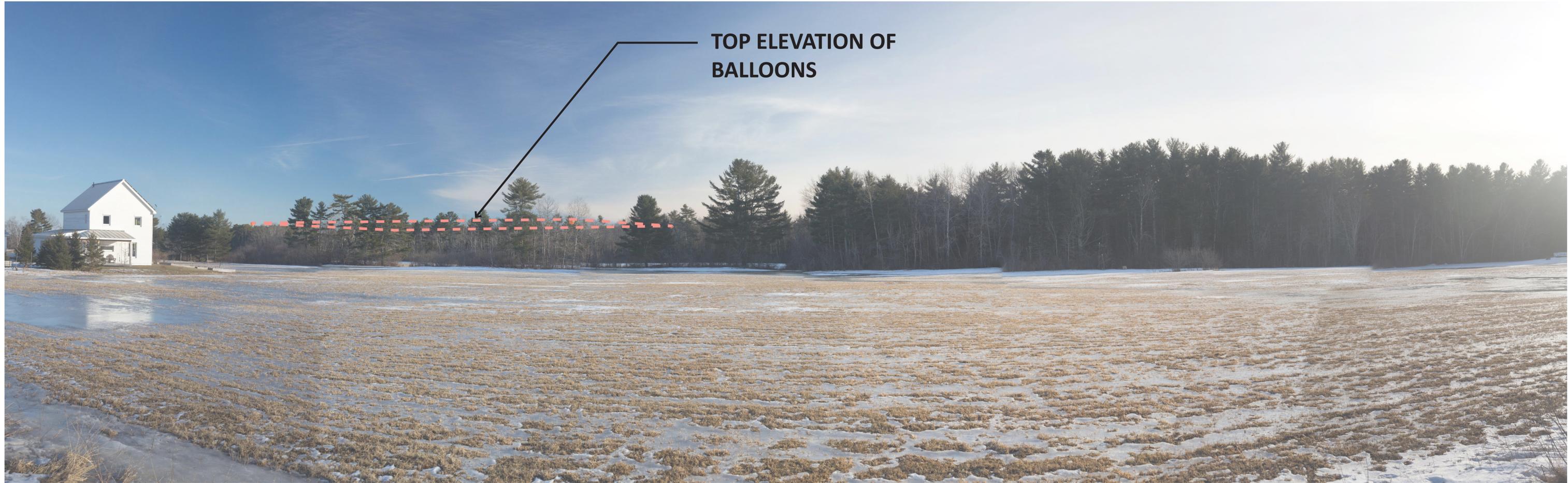


EXISTING BUILDINGS

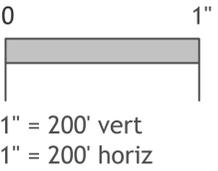
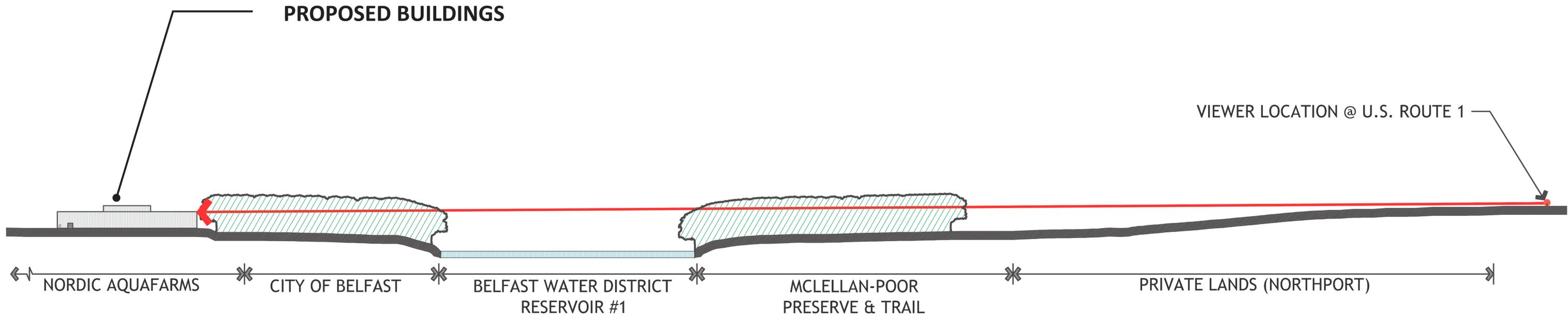
PROPOSED BUILDINGS











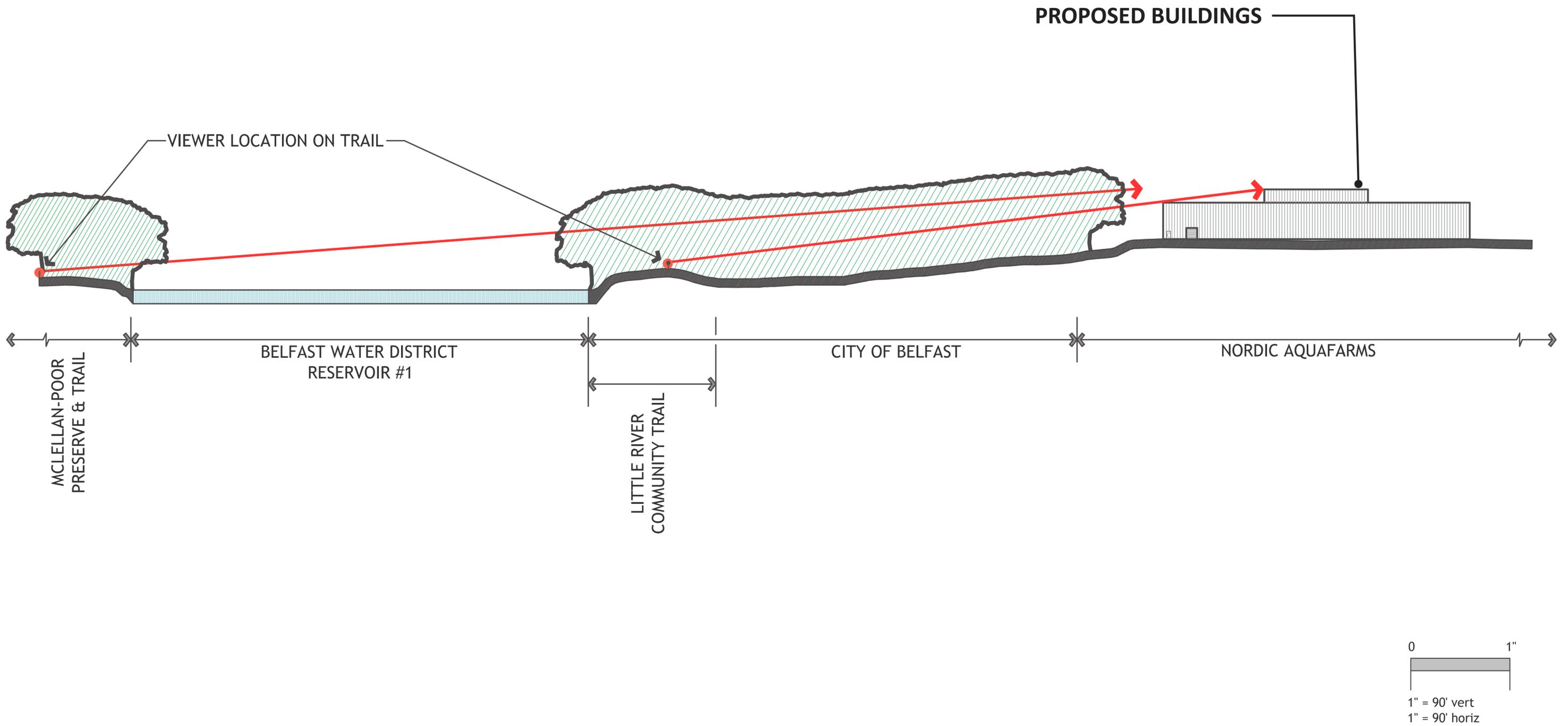


Figure 12



Figure 13



Figure 14



Figure 15

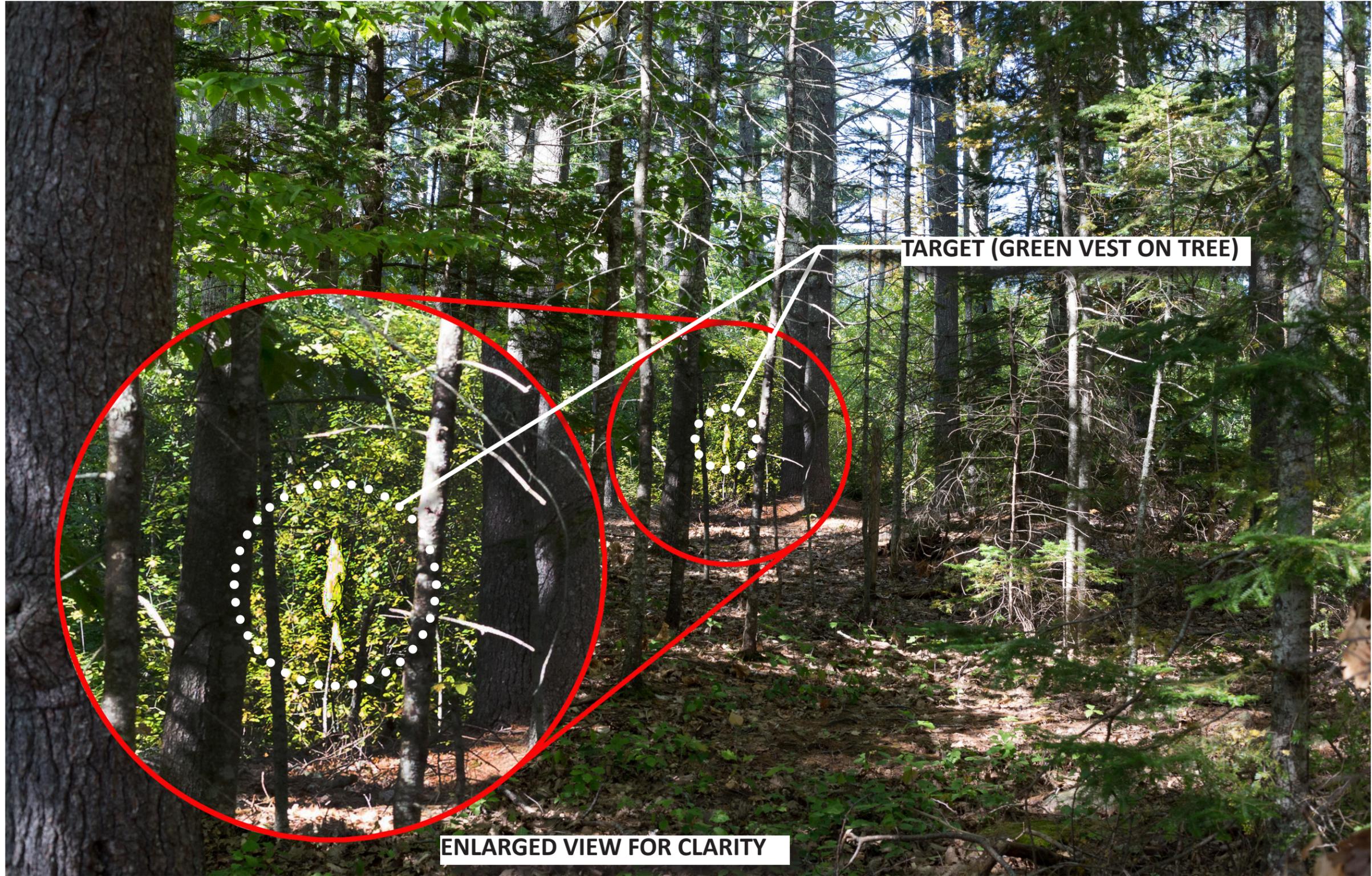




Figure 17



Figure 18



VIEW @ TRAIL TO TARGET (SAFETY GREEN VEST PLACED 100' FROM SHORELINE)