

ASSESSMENT AND REVIEW OF AESTHETICS AND ORDERLY DEVELOPMENT FOR THE PROPOSED CHELSEA SOLAR PROJECT - Case No. 17-5024-PET

Bennington, Vermont

June 19, 2018



Prepared for:

Vermont Public Service Department
112 State Street
Montpelier, VT 05602

Prepared by:



Middlebury, Vermont
802.388.3011
www.landworksvt.com

Landscape Architecture • Planning • Graphic Design

Table of Contents

1. PROJECT BACKGROUND	1
1.1 Introduction	1
1.2 General Approach	1
1.3 Project Description	2
1.4 The Aesthetic Assessment	4
2. THE QUECHEE ANALYSIS	5
2.1 First Step of the Quechee Analysis	5
2.1.A What is the nature of the Project surroundings?	5
2.1.B Is the Project's design compatible with its surroundings?	8
2.1.C Are the colors and materials selected for the Project suitable for the context within which it is located?	10
2.1.D What is the Project's impact on open space?	11
2.1.E Where is the Project visible from?	13
2.1.F Conclusion to the First Step of the Quechee Analysis	18
2.2 The Second Step of the Quechee Analysis	19
2.2.A Does the Project violate a clear written community standard intended to preserve the aesthetics or scenic, natural beauty of the area?	19
2.2.B Does the Project offend the sensibilities of the average person? Is the Project, when viewed as a whole, offensive or shocking, because it is out of character with its surroundings, or does it significantly diminish the scenic qualities of the area?	24
2.2.C Has the applicant taken generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed Project with its surrounding?	25
2.3 Overall Conclusion	28
3. ORDERLY DEVELOPMENT	30

ATTACHMENTS

Figure 1. Context Map

Figure 2. Existing Conditions and Analysis of Project's Physical "Fit" on the Project Site

Figure 3. Figure Ground of Project Site and Environs

1. Project Background

1. Project Background

1.1 Introduction

This assessment and review is prepared on behalf of the Vermont Department of Public Service to provide an objective, professional opinion on the proposed changes to the Chelsea Solar Project (Project) located in the town of Bennington, Bennington County, Vermont. This report and its accompanying figures are conducted within the parameters set forth in Title 30 Section 248 and 8010 of the Vermont Statutes Annotated, and PUC Rule 5.112, for review of commercial energy generation and transmission projects. The analysis thus considers the requirements of the Quechee Analysis, established in 1985 in the Environmental Board's Quechee Lakes decision.

The methodology for the aesthetic assessment of this Project includes visual and cartographic analyses, field study, and document research and review. Our primary analyses assess the change in the Project's visibility and potential for visual and aesthetic impacts from the original filing. Aesthetic analyses typically focus on vantage points from major federal, state or local roads, relationships to nearby public lands and areas of public interest, tourism destinations with scenic resources, areas with high scenic value and/or official designation as a cultural, aesthetic, or recreational facility or resource. Locations that involve residential areas in close proximity to the proposed solar project are also considered, although review of aesthetics under Section 248 using the Quechee Analysis specifically does not guarantee that views from individual private homes and properties will never change. The PUC has established that the focus of an aesthetics analysis is not "in contemplation of protecting private property, but rather a mechanism for protecting members of the public from exposure to aesthetic degradation." ¹

1.2 General Approach

Visibility alone is not a sole factor in determining whether a project's impact will be adverse, or undue adverse. This is where a solid understanding of the context and sensitivity of the area helps determine if a project will materially diminish the scenic beauty and aesthetics of a place, and what steps can be taken to mitigate those affects. The Quechee Analysis provides a clear framework for evaluating whether the aesthetic impacts of a project are adverse and undue. The former Environmental Board has defined aesthetics as involving "...overall perception" and "the sense of place and the quality of life that a place affords" (Vt. Env'tl. Bd. May 25, 1999). Accordingly, this aesthetic assessment considers not only the visibility of the Project, but the effects on "overall perception," "sense of place," and "quality of life". This big-picture understanding of how a project would affect its surroundings is an essential component of an aesthetics assessment. The following discussions, narratives, and appendices, assembled by the professional staff at LandWorks run through a full Quechee Analysis of the proposed Chelsea solar project and demonstrate and conclude that the Project, as currently proposed, will result in an undue, adverse impact on aesthetics in accordance with the two-step Quechee Analysis unless additional reasonable mitigation steps are taken.

¹ Re: Rinkers, Inc., No. 302-12-08 Vtec at 17-18 (Vt. Env'tl. Ct. May 17, 2010) (Wright, J.) (quoting Re: Lawrence E. Thomas, Permit No. #2W0644-EB, Findings of Fact, Concl. Of Law, & Order, at 11 (Vt. Env'tl. Bd. Feb. 18, 1986)).

1. Project Background

1.3 Project Description

The Project proposed is a 2.0 MW ground mounted PV solar electric generation facility located just north of the US Route 7/VT 279 interchange and Welcome Center in the town of Bennington, Bennington County, Vermont (see Figure 1. Context Map). The Project will occupy approximately 7.1 acres within a larger 27.3-acre site that is currently wooded and undeveloped; the 2.0 MW Apple Hill Solar project, currently under review by the PUC, is proposed on the remaining portion of the parcel occupying approximately 7.35 acres (see image that follows). The Project will be accessed from a new 14 feet wide, 850 feet long gravel private access entrance that will extend off Willow Road to the equipment skid location.

The Project will consist of solar photovoltaic (PV) modules attached to a fixed mounting system composed of steel and aluminum support pieces that will be no more than 8 feet from grade at the highest point. The stationary mounting structure will be pile or screw driven and grouped into arrays arranged in east to west rows with panels tilted 15 degrees and facing due south. The solar cells proposed will have a dark black color as opposed to the more commonly seen blue panels.

String inverters, located behind the racking rows, will convert the DC solar power to AC utility grade power. Electrical lines buried underground will then link the solar modules to an equipment skid at the northern boundary of the array. The equipment cabinet on the skid will be about 12 feet in height and painted ANSI 61 dark gray. The solar array and other equipment will be surrounded by a proposed 10-foot high chain link fence affixed with black mesh fabric (85% opaque) in some locations and will be locked and gated for screening and security purposes.

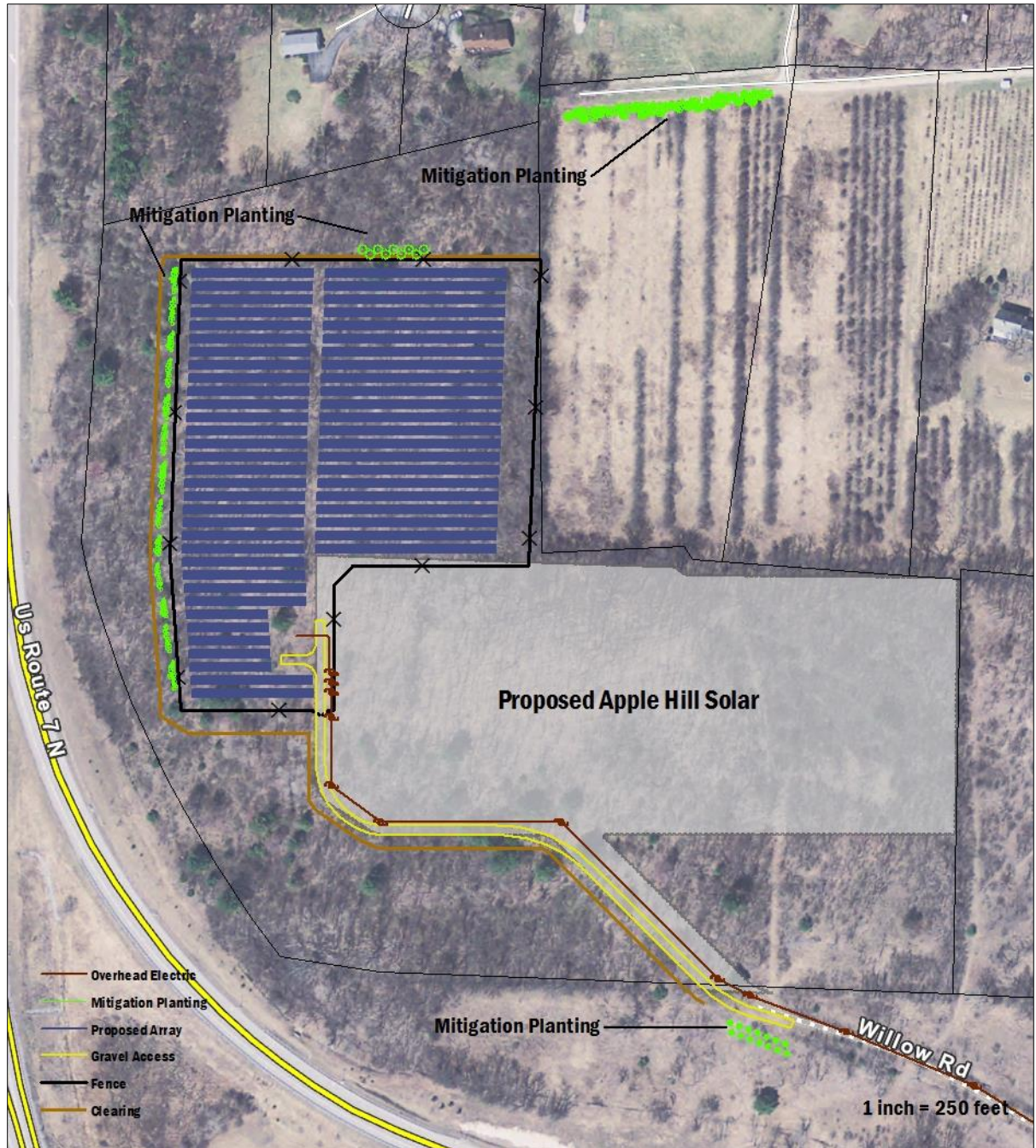
Underground cabling will connect the Project to the electric grid at a bank of three poles (riser pole, reclosure pole and primary meter pole) at the southeastern corner of the Project footprint. From these poles the power will be conveyed along new poles, to be installed by GMP, ranging in height from 38-43 feet that will run for approximately 1 mile along Willow Road, Hewitt Drive and to the proposed point of interconnection on East Road.

According to the Applicant's engineering site plan, preparation of the site will include a total clearing of approximately 9.64 acres, which includes 3.263 acres that will be stumped, grubbed and graded and 6.377 acres where trees will be cut flush and stumps left in place. Where grading occurs, stumps will be removed and disposed of off-site. Of the total clearing, approximately 6.44 acres will be excavated soil. Permanent impervious surface will include 16,500 sq. ft. for the permanent gravel access road and 1,500 sq. ft. for the installation of the inverter and transformer stations. What is not noted however in the Applicant's site plans or in testimony, is the additional trimming, cutting, clearing or potential grading that may be necessary for access along Willow Road, which is best described as a 4-wheel all-terrain woods trail, and for the overhead electric along this road, as well as Hewitt Drive, which is currently undeveloped on either side and has no existing utility line.

Within the Project footprint, the ground will be covered with mulch, periodically mown native grass mix, and existing brush. An existing vegetated buffer will remain on roughly 3 boundaries to the north, west, and south, and no buffer will remain on the eastern boundary. For landscape mitigation, a total of 223 individual plantings (mixed deciduous and coniferous) are proposed along the western edge; plantings are proposed in the adjacent property to the north and east along the southern property boundary of the Harris' residence, which includes 142 mixed deciduous shrubs and trees; new evergreen screening trees

1. Project Background

are proposed along the northern boundary of the array, installed at 20-24 tall, to provide additional screening to the adjacent property; and, in the State R.O.W along the access drive, which includes 14 white pine in two parallel rows. No additional Project components are proposed.



Overview of proposed project

1. Project Background

1.4 The Aesthetic Assessment

Under Section 248(b)(5), the Vermont Public Service Board must find that the Project will not have an undue adverse effect on aesthetics, giving due consideration to Criterion 8 of Act 250. Act 250's Criterion 8 addresses aesthetic impact within the parameters of the so-called Quechee Analysis, which was established to provide a consistent and defensible method for evaluating the aesthetic impacts of projects undergoing Act 250 review. The Quechee Analysis is a two-step process, which begins with assessing the nature of the project, its context, and whether it will lead to adverse aesthetic impacts. This step asks whether the project is in harmony with its surroundings, and the analysis is based on a clear understanding of the nature of the visual impacts. This step must describe the surrounding area of the project and the compatibility of the project with those surroundings. It also asks: 1) whether suitable colors and materials have been used; 2) how visible the project is; 3) how the project affects open space in the area; and, 4) whether the project has been proposed for visually sensitive land.

If the conclusion from this first step of the analysis is that the aesthetic impacts of the project will not be incompatible with its surroundings, then the aesthetic impacts of the project are considered not adverse. If this is not the case, then the project is considered to have an adverse impact and the second step of the analysis is required to determine if the adverse impacts are undue. The second step asks three questions: 1) does the project violate any clear, written community standards intended to protect the scenic beauty of the area; 2) does the project appear shocking or offensive to the average person; and 3) has the applicant taken all generally available and reasonable steps to mitigate the identified adverse impacts of the project as proposed? If the answer to questions 1 or 2 is yes, or the answer to question 3 is no, then the aesthetic impact of the project is considered unduly adverse under the Quechee Analysis.

2. The Quechee Analysis

2. The Quechee Analysis

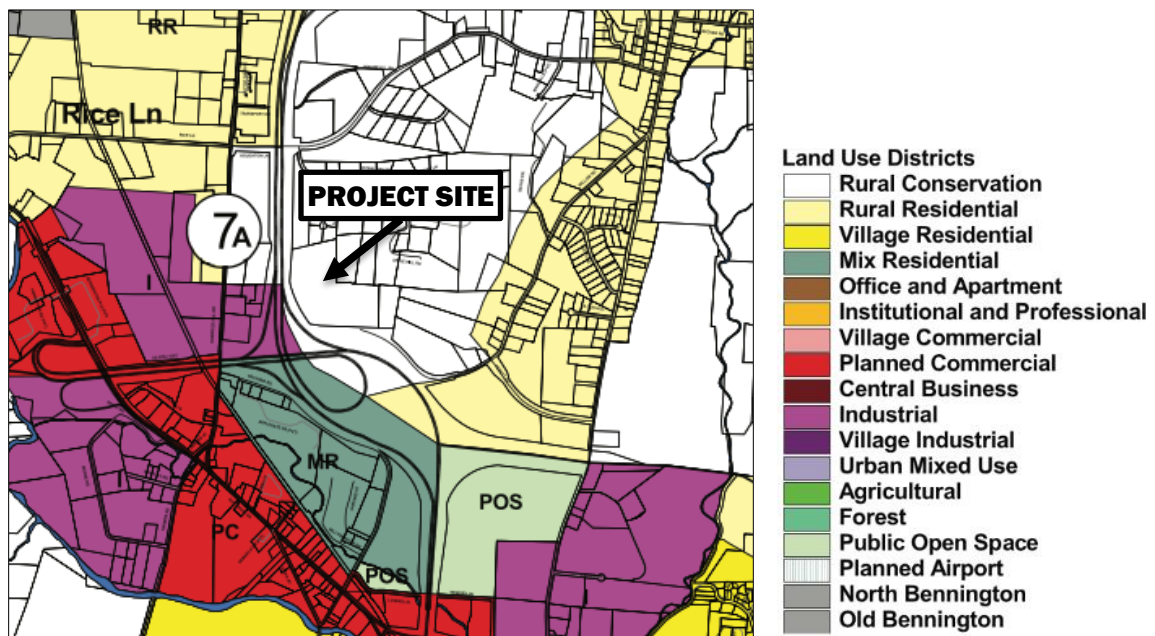
As stated in the initial narrative regarding the Quechee analysis, the applicant must address the relationship of the proposed project to its surroundings, describe its color and materials, its impact on open space, and assess other aesthetic qualities. Therefore, this section follows the Quechee analysis on a step-by-step basis. The first step asks a series of questions to ascertain whether or not a project will have an “adverse” impact. If a project is found to be adverse, the second step is triggered, and will determine whether that adverse impact is “undue.”

2.1 First Step of the Quechee Analysis

2.1.A What is the nature of the Project surroundings?

The Project is proposed in the Town of Bennington, Vermont, just north of the US Route 7/VT 279 interchange and the Vermont Welcome Center. The parcel is currently wooded and undeveloped and is bordered on the south and west by highway R.O.W., and residential properties that make up the Apple Hill neighborhood on the north and east (see Figure 1. Context Map).

The Project is located in an area delineated in the Bennington Town Plan as Rural Conservation, the purpose of which “is to preserve [the] distinctive rural character and working landscape while accommodating very low density residential development in a manner that avoids the need for public water supply and public sewer systems. Agriculture, forestry, very low density single-family residential development, and certain limited uses that are suitable in rural areas are permitted in the district.” It is an area that, according to the Plan, has “retained its rural and open space character.” (2015 Town Plan pg. 28)



Excerpt from the Town of Bennington Land Use Plan Map 3-2

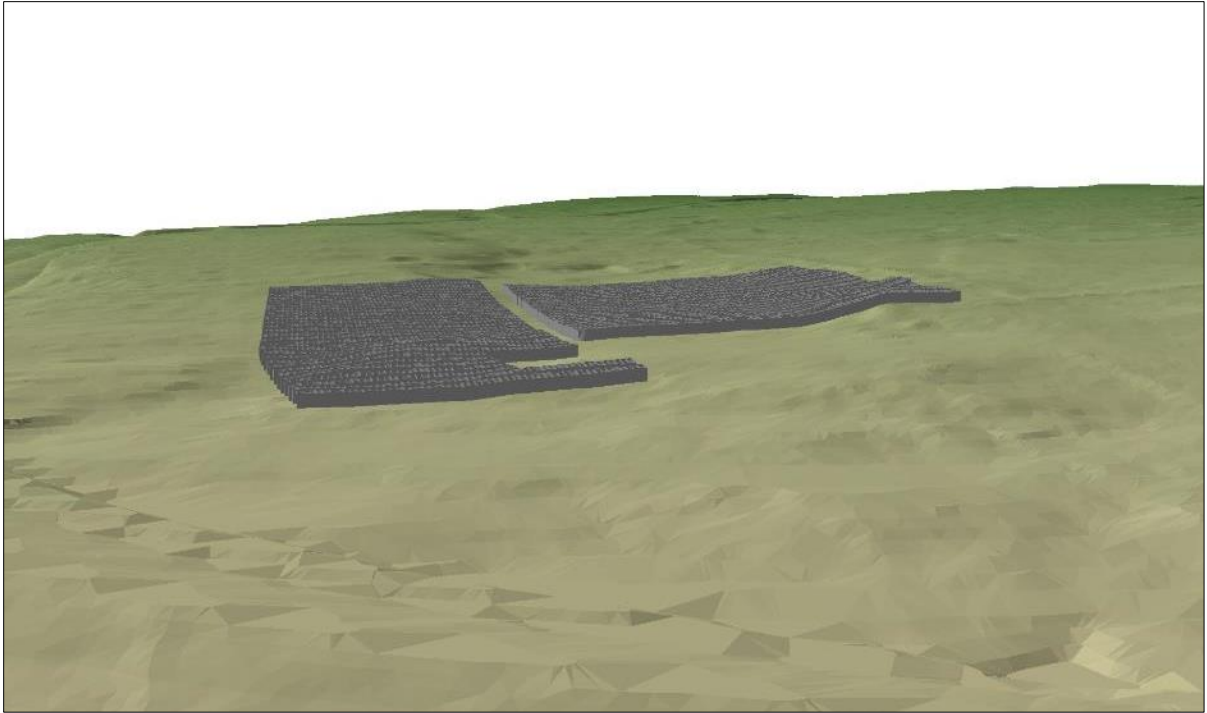
2. The Quechee Analysis

The Town of Bennington is in a mountain valley located along the western edge of the Green Mountains, including Bald Mountain, which occupies the northeastern edge of town and rising to a summit of 2,857-feet, with the southwestern part of town rising to 2,350-foot at Mount Anthony, which is part of the Taconic Mountain Range. Being sited between these two mountain ranges, the town and the Project area is characterized by rolling terrain and gently sloping hills interspersed with rock intrusions and geomorphic features. The Project parcel varies in elevation from 654 feet in the southwestern corner to 778 feet on the north and east, and the solar site itself (or cleared area) ranges from 674 feet in the southwest corner sloping uphill to 754 feet in the northeast corner, an average grade of roughly 9% (note that a 1-2% grade is considered desirable, or level, in landscaping and construction).



Notice the rolling topography of the site and how it slopes down to the west.

2. The Quechee Analysis



Bare earth 3D model of the array (grey block) showing the birds eye view looking north and how the site slopes down to the west.

Just to the south and west of the Project parcel is US Route 7, the Route 7 and VT 279 interchange, and the Vermont Welcome Center. The newly constructed Welcome Center is about 1,000 feet south of the Project parcel and described on the Vermont Chamber Vermont Tourism Network website in this manner, “Gateway to Vermont’s Southwest Corner – “The Shires of Vermont” - Stunning views including that of the iconic Bennington Battle Monument to the south and spectacular sunsets to the west greet travelers arriving at Vermont’s newest state welcome center in historic Bennington. A staff of friendly and knowledgeable Vermonters assists with reservations, travel information, and directions. The modern design of the center with its post and beam construction and abundance of windows confirms that the visitor has arrived in The Green Mountain State. Displays in the center reveal a wide range of Vermont made products, as well as recreational, cultural, agricultural and natural attractions available in every region of the state.”²

Views near the Welcome Center and along this portion of the highway, and including the Project area, are considered important to the town’s gateways. The Town Plan cites, “Well-defined gateways enhance the character of the community and are an important scenic resource in and of themselves. Gateways can be improved by effective land use planning and integration of site features such as landscaping or historic district signs... Particularly important gateways are those located along the major state highways entering Town. Gateways along Route 9 from the east and west and along Route 7 from the north and south greet thousands of travelers every day. The recently opened Route 279 is another important entry point to the Town with natural gateway scenes.” (2015 Town Plan, pg. 20) This corridor and infrastructure provides access to renowned scenic views and is an important visual and functional separation between the commercial, industrial and business activities that occur to the south and west of it. The buffer of forest along the northern and eastern boundaries of the highway corridor, where the Project is located, offer a

² <https://vermonttourismnetwork.com/bennington-welcome-center/>

2. The Quechee Analysis

barrier and balance for the undeveloped and rural qualities of the Rural Conservation district beyond. This “bright line” also serves as an integral land use boundary for the residences in the Apple Hill neighborhood, as well as an appropriate backdrop for the Welcome Center and the experience of visitors as they arrive in Vermont and the town’s gateway area.



One of the many views to the Bennington Battle Monument with Mount Anthony framing it. The Project is directly behind the viewer, about 1,000 feet away to the closest point (access road).

The Apple Hill neighborhood is located just north and east of the Project parcel, and in fact, the parcel could aesthetically be considered a part of the neighborhood, providing open space qualities and visual buffering. The remnants of the former apple orchard are located just to the north of the Project. It is generally a low-density residential development within a quiet, wooded setting. The nearest residence is about 280 feet to the Project fence on the north, and another dozen homes are within about 600-1,000 feet of the Project. Further to the east and north are additional rural residential developments, agricultural activities, the Mount Anthony Middle School, and the Green Mountain National Forest beyond.

2.1.B Is the Project’s design compatible with its surroundings?

The size and scale of the Chelsea Project is compatible with its surroundings on a regional scale in so far as this is a transitional area between a multitude of differing uses and districts (see Figure 1. Context Map). It is bounded on the south and west by US Route 7 and the VT 279 interchange, the Vermont Welcome Center, and mixed residential, commercial and industrial beyond. It is a busy, high-density area with lots of traffic, commerce, and day-to-day activity. There will be very limited visibility of the Project from these areas, and not likely noticeable given the activities that occur here. While there might be minimal visibility from the Welcome Center or the roadway, the Project is sufficiently separated by topography and existing vegetation and would not be incompatible with the development patterns that are already present and visible here. To that end, the Project fits within the context of these surroundings.

2. The Quechee Analysis



View from the Welcome Center looking northwest toward the Project area. Note the multitude of vertical elements that dominate the view.

To the north and east of the Project, however, the area is best described as residential and rural residential. The Project parcel is at the cusp of these two very different landscapes and the forested area provides an important buffer between the two contrasting settings. The overall perception of the area as viewed from here is completely different – it is a more quiet, rural, limited density, and arguably scenic setting. The Town Plan further confirms this assessment, describing the Rural Conservation District as valley areas “that have retained their rural and open space character.” (2015 Town Plan pg. 28) Even though they are only several hundred feet away, the highway and commercial areas are not visible or noticeable, giving the surroundings a more bucolic and pastoral feel. These areas are completely disconnected from the south and west insofar as access is not possible from the highway, so the approach provides a different context and aesthetic appeal as well. Given the nature of the adjacent development patterns, visible or perceived, and the visual buffering and separation from the contrasting land uses to the south and east, a Project of this size and scale is not entirely compatible with its surroundings or the expectations for this area. The change in character and the extensive loss of an existing forestland will potentially be offensive to those who live here and will experience this change daily (see Figures 2a, 2b and 3). While the Project will be low in height and not occupy a wide panorama view, it introduces a new and foreign element in the landscape that is not commonly seen or expected and would require specific and effective mitigation measures to guarantee it will not dominate or diminish the setting, and to ensure that the perceived value and visual quality of the area is not reprehensibly damaged. To that end, the Project’s design as currently proposed would be adverse.

2. The Quechee Analysis



The view looking southeast from the end of Apple Hill Road, which is in stark contrast to the views and setting one experiences when looking from south to north (i.e. from the highway).

2.1.C Are the colors and materials selected for the Project suitable for the context within which it is located?

The colors and materials proposed for this Project are suitable insofar as 1) they are consistent with materials used in many similar solar projects approved by the PUC and seen elsewhere in the town and throughout the state, and 2) they do not stand out or make the panels or structures any more visible than other elements in the landscape (i.e. the darker color of the panels and metal finish of the structures blend in better with the background). The dark solar panels will be attached to a fixed mounting system composed of grey steel and aluminum support pieces. The metal/grey color of the frames and racks that support the panels are less visible and often blend in with surrounding ground cover, trees, buildings, and background landscape, even in winter. Much of the vegetation adjacent to the Project site will further help the Project blend in with its surroundings. Given its lower height, and its placement within the topography, the Project also will not be skylined from any potential vantage point, so it will be absorbed better into the background of the adjacent vegetation, topography and hills.

The entire operation will be fenced in order to provide for safety and security. The fence currently proposed is a 10-foot high black chain-link fence with black mesh fabric (85% opaque) that will have a locked gate at its entrance. Typically, black fencing blends well into background elements and is a suitable color and material. The new utility poles and electric line that are proposed along Hewitt Drive and Willow Road, while they are not already present, will be of similar type and size as poles already seen in the area and will not appear out of place or contextually inappropriate. They are a common material used for such applications and are suitable here.

2. The Quechee Analysis

Any potential glare from the panels, which are proposed to be black, will be minimal for several reasons. In general, given that the whole concept of efficient solar power is to absorb as much light as possible while reflecting as little light as possible, standard solar panels produce less glare and reflection than standard window glass does. The panels will also have anti-reflective coatings to reduce potential reflectivity. In addition to the anti-reflective coatings, the surfaces of PV panels are roughened, or “stippled” or “dimpled”, which diffuses reflection, and, thus, eliminates glare. Moreover, potential for glare at most viewing locations will be mitigated or eliminated due to sight barriers and orientation of the panels. The views from US 7, VT 279 and the Welcome Center will be mitigated by the Applicant’s proposed 10-foot fence as well as intervening vegetation and topography. If visible from US 7/VT 279, drivers’ attention and focus is forward and toward the road, and not sideways at the solar site, so glare should not be an issue. Views and potential for glare from residences to the north and east will also be mitigated or eliminated by angle of view (the panels will be facing away), the fence, and intervening vegetation and topography.

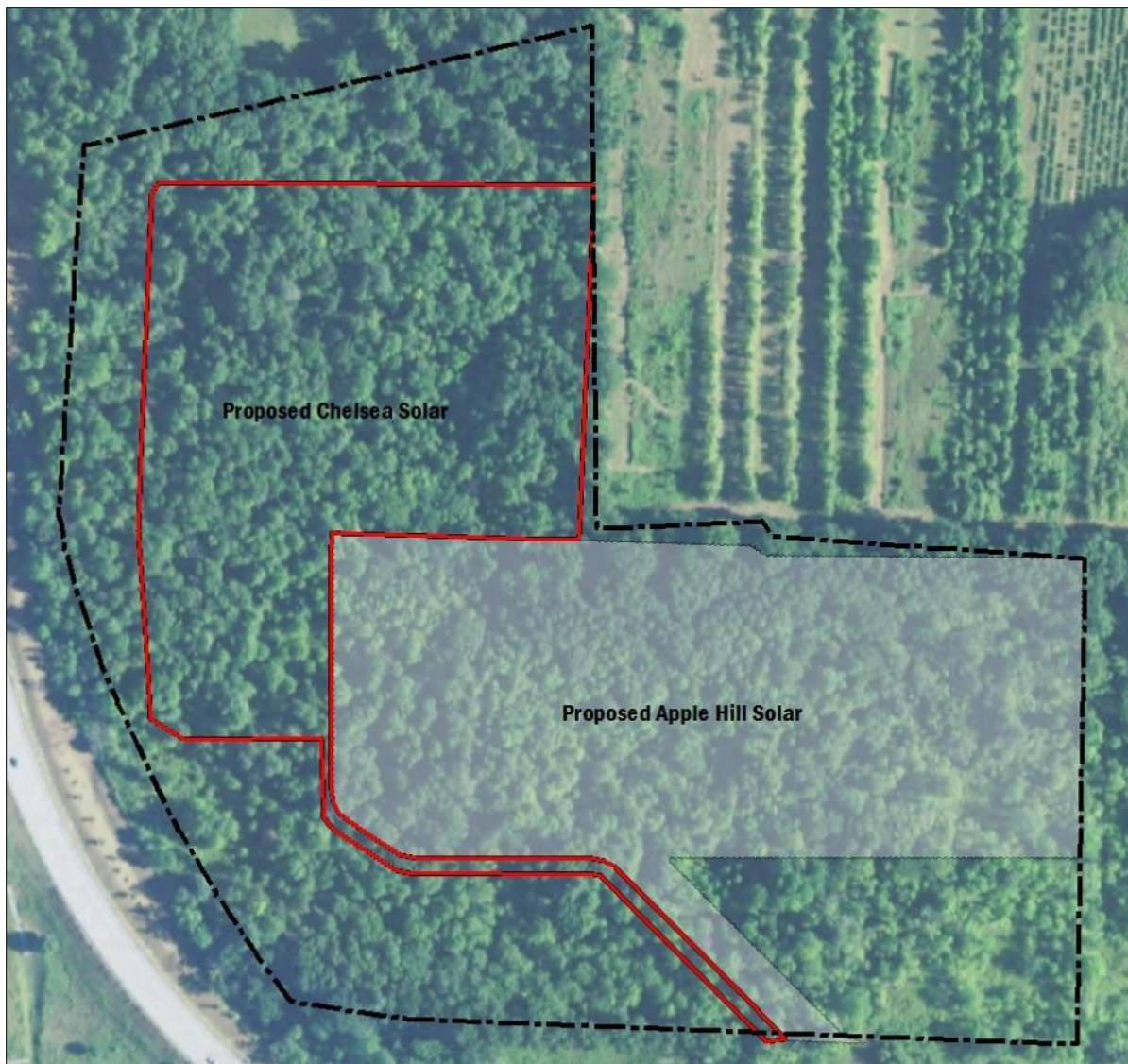
Given these factors, the structure designs and material selected are not adverse.

2.1.D What is the Project’s impact on open space?

Open space can be defined as any piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public or contributes to open space views accessible to the public. While the Project parcel is currently undeveloped, it is not accessible to the public, nor is there any designated or official public use or access for this property, now or in the future. However, the parcel does contribute to open space views along the highway gateways and particularly from locations to the north and east. Bennington’s Town Plan also cites that “Bennington’s undeveloped open space—forests, fields, and parkland—are important natural and scenic assets...” (2015 Town Plan pg. 89)

While the Project is located within an identified scenic viewshed, as outlined in the Town Plan - “The recently opened Route 279 is another important entry point to the Town with natural gateway scenes” (2015 Town Plan, pg. 20), it is not prominently visible from noteworthy public off-site locations like the Welcome Center or the Bennington Battle Monument. However, the Applicant proposes to clear-cut roughly 9.64 acres of vegetation and forest that are integral to the open space character of the Apple Hill neighborhood (see image that follows). This change will certainly have an impact on the open space values that the forest currently provides, including visual and aesthetic buffering (including noise abatement), and will introduce a new land use not already present. As previously stated, the change in character and the extensive loss of an existing forestland will potentially be offensive to those who experience this change on a daily basis.

2. The Quechee Analysis



Red outline indicates the 9.64-acres to be clear-cut for the Project, and the grey indicates the approximate boundaries of additional area to be removed if the Apple Hill solar project were to be approved (about 19.32 acres total).

It could also have a greater impact on the health and vitality of the vegetation left remaining, which is proposed to serve as an important buffer between the Project and neighboring properties as well as the highway. Secondary results of clear-cutting such as tree mortality, windstorm vulnerability, reduction in tree density, and fragmentation of ecosystems, will likely have a significant impact on the open space values of the area. Adequate buffers along the Project boundaries (as well as those along the Apple Hill solar project if it were also installed), which is vital to mitigating views, is not guaranteed. It is also not clear how much additional clearing and grading will be necessary for Willow Road, which is no more than a woods trail, to accommodate heavy trucks. The culmination of clearing proposed for the Apple Hill Solar Project may also exasperate the impact, which would ultimately result in over 19 acres of cleared forest land. Therefore, given that 9.64 acres of undeveloped forest needs to be clear-cut to accommodate the solar array (and another 9.67 potentially from Apple Hill solar, plus any necessary along the woods road), it can be concluded that the Project will have an adverse impact on open space.

2. The Quechee Analysis

2.1.E Where is the Project visible from?

A site reconnaissance conducted by LandWorks in the area and along roads near the site yield the conclusion that there is limited to no visibility of the Project from major public vantage points. Views are restricted primarily due to topography and vegetation, and only portions of the Project may be minimally visible from the Welcome Center, US 7 or VT 276. Even from these few points, the Project will not be visible in its entirety or will be diminished due to travelers' rate of speed, a narrow angle of view within the wide panorama view, or will be filtered and blended in by topography, existing trees and vegetation, helping the Project to blend in better within the landscape. There is no public vantage point at which the Project can be viewed in its entirety or will be a direct or primary focal point.

Important off-site locations like Willow Park, the Middle School, or Downtown Bennington Historic District, will also have no visibility. While it is possible that the Project will be visible from important long-distance viewing locations like White Rocks lookout or the Bennington Battle Monument, the viewing angle, scale, size and distance of the Chelsea Project will be so small and so minor in the wide panorama view so as to be insignificant. It will just be another land use element among many that are visible from here (e.g. the highway, Bennington commercial district, etc.). This conclusion could change, however, if the Apple Hill Solar Project is factored in to the visibility, which would double the perceived size and scale of the Project when viewed from a distance.



From the grounds of the Bennington Battle Monument looking in the direction of the Project area, which is blocked by intervening trees and structures at ground level.

2. The Quechee Analysis



View from White Rocks lookout – the black oval indicates the location of the Project area (not to scale).³



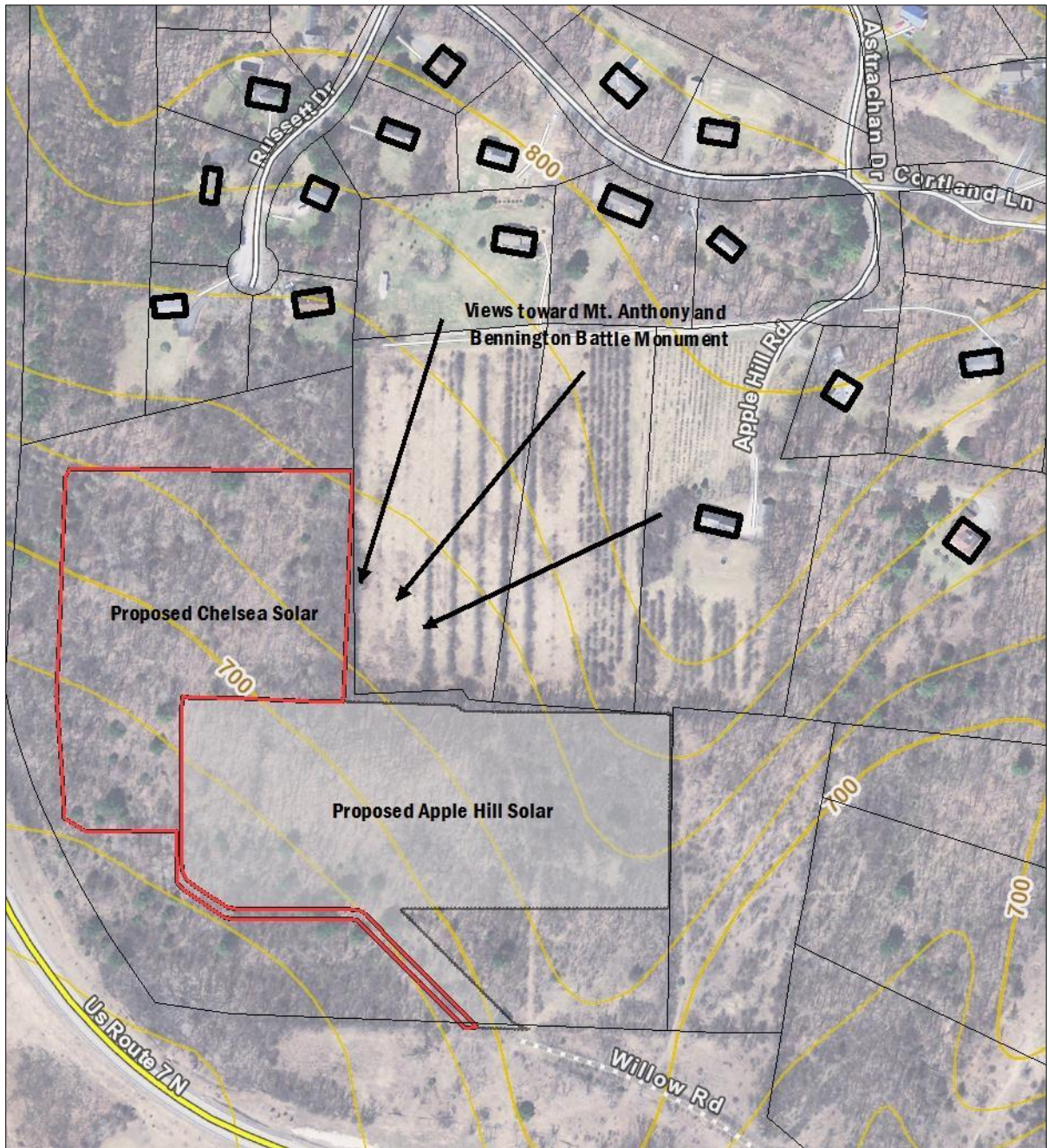
From the picnic area at the Welcome Center looking northwest towards the Project area.

The Project will be directly visible from nearby residences, most of which are oriented toward the Project and in the direction of views to Mount Anthony and the Bennington Battle Monument (see image that follows). This includes the two homes directly adjacent to the Project parcel on the north, as well as one to the northeast at the end of Apple Hill Road, which will have the highest visibility. It is also conceivable that other residences within the neighborhood could have filtered views of the Project, particularly during leaf off conditions and given the fact that they are located upslope from the Project and oriented in the direction of view of the Project. While these views will be limited, filtered, and/or mitigated by intervening

³ Photos accessed online at <http://walkingman247.blogspot.com/2017/11/white-rocksbennington-vermont.html> on 2/5/18.

2. The Quechee Analysis

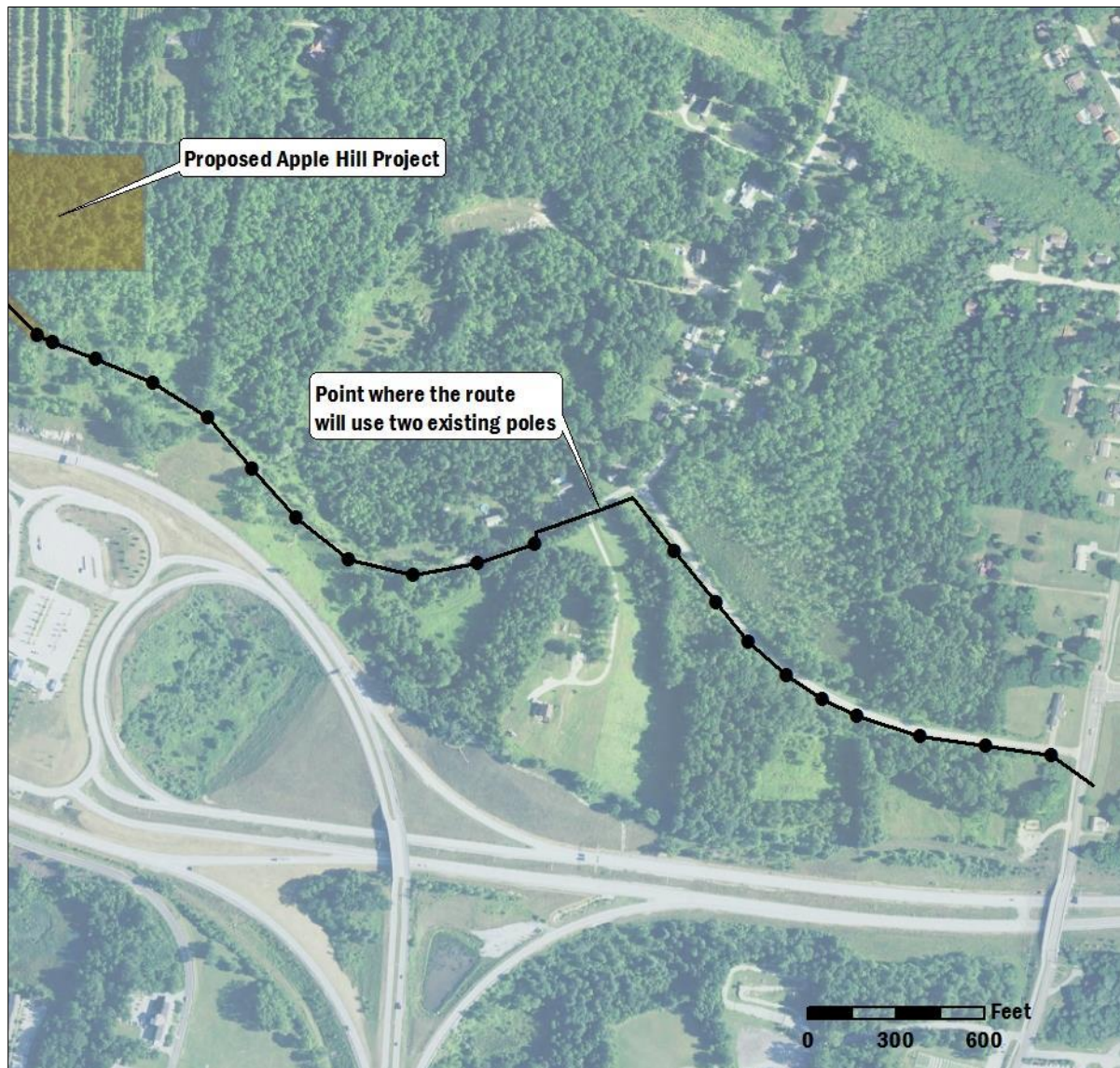
structures, vegetation, topography, and limited angle of view, they will appear contextually inappropriate for the conditions of the area and the expectations for the rural subdivision. As previously mentioned, even though the area is near to the highway and other commercial areas, these land uses are not readily visible or apparent from here. There is a perception of rurality that is existing and expected. Given that the Project will be visible from these adjacent properties, and appear out of place in this distinct context, it can be concluded that while visibility alone will not be extreme, the effects on “overall perception,” “sense of place,” and “quality of life” of the area will be adverse.



Notice how the homes in the Apple Hill neighborhood are oriented south and west looking over the proposed Project and toward views to Mount Anthony and the Bennington Battle Monument.

2. The Quechee Analysis

Another potential aesthetic issue is the existing access road and the introduction of a new nearly 1-mile long utility line along Willow Road and Hewitt Drive. The Applicant's site plans and testimony do not adequately address the amount of trimming, cutting, clearing, stumping, grading, or gravel fill that will be necessary to accommodate access into the site, as well as the new power line. Willow Road is currently a narrow woods road which seems likely to need upgrading, especially to accommodate heavy truck traffic. It is impossible to determine the visibility and visual affects this could have from the Welcome Center, Routes 7 and 279, and areas beyond without an understanding of the upgrading that may or may not be necessary. Hewitt Drive is also currently undeveloped and wooded on both sides and will probably require trimming at the very least.



The route of the new overhead electric line and poles, which follows Willow Road and Hewitt Drive. Neither road hosts an overhead line, aside from the point shown above.

2. The Quechee Analysis



1. Looking west at the portion of Willow Road that runs parallel to the highway, which is a thickly vegetated woods trail here.
2. At the dead end of the maintained portion of Willow Road. It is closed and signed saying "No Motor Vehicles."
3. The corner of Willow Road and Hewitt Drive in the area where the two existing poles will be replaced or reused.
4. Looking east down Hewitt Drive. Notice the undeveloped nature of the area and the trees and vegetation that sit close to the road.



Just past the dead end at Willow Road looking west along the wooded portion, which will be used to access the site and where a new utility line will run.

2. The Quechee Analysis

2.1.F Conclusion to the First Step of the Quechee Analysis

While the Project has limited to no visibility from most public vantage points, it will have an adverse impact on neighboring properties, particularly with respect to impact on open space and its lack of fit with the surrounding context. Therefore, the second prong of the Quechee Test is conducted to determine if the adverse impacts are undue.

2. The Quechee Analysis

2.2 The Second Step of the Quechee Analysis

2.2.A Does the Project violate a clear written community standard intended to preserve the aesthetics or scenic, natural beauty of the area?

“In order for a provision to be considered a clear, written community standard, it must be ‘intended to preserve the aesthetics or scenic beauty of the area’ where the proposed project is located and must apply to specific resources in the proposed project area.”⁴

In evaluating whether a project violates a clear written community standard, which directly addresses aesthetics or a scenic resource under the Quechee test, the PUC routinely looks to the town plan as the foremost document for providing these standards. If the PUC finds that such standards do exist, and that the project as designed would violate those standards, the adverse impact would be undue.

The Project is located in the Town of Bennington and under the purview of the Bennington County Regional Commission (BCRC). A review of the 2010 Bennington Town Plan, the 2004 Town of Bennington Scenic Resource Inventory, the 2009 Bennington Park and Open Space Plan, and the 2007 Bennington County Regional Plan yields the conclusion that the Project will not violate a clear, community standard intended to preserve the aesthetics or scenic beauty of the area in accordance with the Quechee test.

Regional plans, in general, contain overriding goals, policies, and recommendations, which are characteristically advisory and non-compulsory in nature. Statements are usually made in terms of “encourage,” “support,” “promote,” and “should,” terms that in Quechee analysis cases have been determined to constitute non-mandatory language. Regional plans, as a matter of policy, focus on broader issues that affect the region as a whole and typically do not consider impacts on an individual town. The Bennington County Regional Plan follows this typical format, and discusses the importance of aesthetics and scenic qualities of the region in regard to a substantial number of planning topics, including quality of life, historic settlement pattern, recreation, economic development and tourism, Scenic Byways, land use, renewable energy planning and siting, hillsides and scenic roadways. The plan identifies specific goals that “are deemed important for the Bennington region” and “reflect not only the planning goals of Act 200, but also the goals of the previous Regional Plans.” Among the goals is a desire to “Protect important natural and historic resources” where the plan states, “Particular attention should be given to: significant natural and fragile ecological areas; important features of the landscape; scenic roads, waterways, and views; water resources including lakes, aquifers, rivers and streams, and wetlands; forests; prime agricultural soils; earth resources; air quality; and historic structures, sites, and districts. (p.4)

Scenic character, recreation, tourism and economic development are linked together a number of times in the Regional Plan. There are multiple references to Bennington County’s scenic landscapes and roads, as well as narratives highlighting the relationship between the region’s natural resources, its distinct physical features and visual qualities, and how those features support the local economy and the numerous outdoor recreational assets of the region. In the General Description of Physiography (p. 11) the Plan describes, “The scenic landscapes of the Bennington region derive from the area’s distinctive physiography. These basic characteristics of the land – topography, bedrock and glacial geology, soils, and

⁴ In Re Halnon, NM-25, Order of 3/15/01 at 22 n.5.

2. The Quechee Analysis

waterways – have also strongly influenced the type, location, and intensity of land use within the region.” The section on Recreational Resources (p. 46) provides that “The region’s scenic and natural environment provides a special outdoor recreation experience for the area’s residents, tourists, and second home owners (camping, fishing, swimming, boating, canoeing, kayaking, hiking, biking, skiing, snowshoeing, snowmobiling, nature and bird watching).” Finally, the region’s landscape as an economic asset is discussed in the section titled Unique Natural Features and Scenic Resources (p.45) where the plan states, “...the natural appearance of the region’s landscape is fundamental to its rural character and appeal. As such, it is clear that scenery is a very real economic asset. People are drawn to this area by the beauty of the hillsides, mountains, rivers, fields, and the traditional townscapes that are complemented by this natural landscape. These scenic values should be protected. A beautiful agricultural valley set against a backdrop of wooded hillsides is surely more valuable to the region than the same valley beneath a hillside that is cluttered with unsightly buildings.

The Regional Plan also devotes sections to promoting land use policies that contribute to or enhance existing settlement patterns that visually define the region, stating in the Land Use section on page 51, “Future development should be concentrated in and around growth centers...that is, the urban centers and villages in the region. These centers of development and activity should be surrounded by a rural landscape of farmlands, forests, and small rural residential communities. Moreover, the demarcation between growth centers and the rural environment should be quite distinct. Growth Centers require careful delineation to accommodate future growth while protecting the values of the rural countryside. **If development is allowed to sprawl outward from urban areas and villages the intervening open lands will eventually disappear and the region will have lost much of its distinctive rural character and appeal.** Such a pattern of sprawling development would also reduce the ability of towns to provide efficient and economical services and would waste energy resources.” The land use plan, therefore, directs new growth to urban and village areas and allows the type of development in rural areas that will not prove costly to municipalities nor detract from the region’s rural character.

While it is clear in the Regional Plan that the region’s landscape, natural resources, aesthetic character and scenic areas all contribute to the vitality and quality of life in the region, and even points out the importance of open areas and rural countryside, there are no specific or mandatory standards that indicate how these characteristics shall be managed or preserved. There is certainly an intent that these special areas be maintained, but all goals and policies are written in terms of “should” and are advisory in nature. Moreover, the Project area is not specifically identified, and there are no goals, policies or standards that are specific to the Project area, or that explicitly dictate how to preserve the visual and aesthetic qualities of the Project area. Therefore, with regards to the Regional Plan, it can be concluded that there are no clear written community standards that the Project violates.

Regional plans typically defer to the more specific goals and policies outlined in the individual town plans. Therefore, the next step in the document review process is to evaluate the 2010 Bennington Plan. The Bennington Town Plan contains numerous mentions and references relating to the scenic qualities of the Town. These are found in sections related to historic settlement pattern, tourism, recreation, land use, forest land, and scenic resources. Similar to the Regional Plan, this plan contains specific goals to “provide focus and direction to the policy statements and recommended actions set forth in each chapter.” Two of the seven goals are related to scenic resources;

- **“2. Plan development to maintain the town’s historic settlement pattern** of a well-defined urban growth center surrounded by rural countryside.... Development in rural areas shall respect the need to protect the

2. The Quechee Analysis

town's natural resources and scenic landscapes. Sprawl—dispersed, auto-dependent development outside of compact urban and village centers, along highways, and in rural countryside—is costly, inefficient, and unattractive and will be strictly limited.” (p. 2)

- **“3. Recognize the importance of significant natural, scenic, and historic resources.** Make use of public investment, regulation, and creative development techniques to protect open spaces, natural and fragile areas, scenic views, and historic sites, structures, and districts that are significant to the community.” (p. 2)

The Project is located in the Rural Conservation District (RCD), which is described in the Town Plan in the following manner, “Rural Conservation Districts are located in the valley areas outside the Urban Growth Area which have retained their rural and open space character. Considerable acreages of agricultural land exist in these areas, along with extensive woodlands and low density residential development. The purpose of the Rural Conservation Districts is to preserve this distinctive rural character while accommodating low density residential development in a manner that avoids the need for public water supply and public sewer systems.” The Plan goes on to say, “Agriculture, forestry, very low density single-family residential development, and certain limited uses that are suitable in rural areas are permitted in the district.” (p. 26) There are specific design standards that apply to new development in the RCD:

“Development in this area cannot be sited in prominently visible locations on hillsides or ridgelines, shall utilize earth tone colors and non-reflective materials on exterior surfaces of all structures, and must minimize clearing of natural vegetation,”

and under the Land Use Policies and Recommendations,

“Rural Conservation Districts shall continue to support traditional low density rural and agricultural uses. Extension of municipal water supply and wastewater disposal lines to these areas shall be prohibited. New residential development in the area shall be carefully planned to protect important agricultural land and other natural and scenic resources. Major subdivisions shall meet the standards of a Residential Planned Unit Development (PUD) to protect Bennington’s traditional rural and agrarian landscape.” (p. 29)

The intent of the recommendations and standards for the RCD are clear – maintain limited rural residential growth and the open space values that the district affords. However, it is not definitive on how or where the standards apply, which is essential in the Quechee test review. The Project area is certainly a hillside, but the Plan does not define “prominent”. In aesthetic assessments, there are levels to prominence (e.g. low, moderate or high), and low-level prominence has a different visual affect than high-level prominence. This hillside does not rise to the level of significant prominence. The Plan also does not specifically identify the Project area as a prominently visible hillside or ridgeline. Moreover, there is no clear definition on how or what minimization of clearing means. The Applicant has reduced the footprint of clearing from the original plan, so in this respect it could be argued that clearing has been minimized. At what point has the clearing been minimized? – this is not defined in the Town Plan. Additionally, the statement “Agriculture, forestry, very low density single-family residential development, and **certain limited uses,**” without defining what certain limited uses means, leaves the door open for interpretation and debate on the types of uses that are appropriate in this district. While it may not be entirely fitting, particularly in some locations, it does not explicitly exclude or prohibit solar development here.

2. The Quechee Analysis

In the Existing Land Uses section, the Town Plan discusses its Urban Growth Area and provides information on how the town plans for future development, “Land use policies and public investments shall be designed to promote new development, infill development, and redevelopment of existing properties within the Urban Growth Area. Although development will occur outside of this area, it will be much less concentrated and shall not include new commercial uses because such uses are incompatible with the rural character of the area. These outlying rural areas also contribute important historic and scenic qualities to the town, and new development in these areas must be carefully planned to protect those resources.” (p. 16) This statement is further supported by the Land Use Plan that provides the following overall objectives:

- “Require new development to strengthen and support the town’s existing land use pattern and historic and scenic qualities.”
- “Plan development in a manner that avoids commercial or residential sprawl and which is consistent with the efficient provision of municipal services and the protection of important natural, scenic, and historic resources.”
- “Maintain the integrity and quality of established residential neighborhoods.”

Much like the section on the Rural Conservation District, the intent is clear – new development shall not be incompatible with, and planned to protect existing natural, visual and historic qualities and settlement patterns. However, words like “strengthen,” “avoid” or “maintain” are nondescript and do not provide the steps or means by which to attain these goals or to ascertain compatibility. The Plan does not include standards on how rural and scenic qualities shall be “strengthened,” “avoided” or “maintained;” nor does the Plan specifically indicate that the Project area is a scenic area that must be “strengthened,” “avoided” or “maintained.”

The Town Plan contains a chapter on Scenic Resources, Section 4.3. The narrative describes the “scenic elements” that “reflect both characteristics that are unique to Bennington and certain features that are widely recognized as adding visual interest to a landscape,” and suggests that “the scenic quality of a landscape can be affected, positively or negatively, by change.” (p.45) Gateways are given special focus for their unique contributions to the visual environment. “Special attention should be given to visual gateways: points of transition along a public highway where it is evident that the traveler is arriving at a unique place. Gateways are located at entry points to the historical downtown and at places along rural highways where significant visual elements of the town’s landscape first appear. These features can be improved through effective planning of adjacent land uses and integration of site features such as landscaping and careful placement of historic district signs.” (p.45) Other noted landscape features that are of a sensitive nature are “views across open fields, prominent ridgelines or hillsides, historical buildings and districts and gateways to those districts, and scenes that include important contrasting elements such as water.” (p. 45)

The Plan then enumerates several policies specific to scenic resources including (pg.49):

- 11. Development of renewable energy resources should consider both the need for locally produced energy and the need to protect natural and scenic resources.
- 12. New development shall be sensitive to scenic resources and shall be planned in a manner that preserves the visual integrity of critical scenic elements and visual qualities.

2. The Quechee Analysis

- 13. The town should work with conservation organizations to permanently protect important viewsheds through purchase of properties or scenic easements. The town should continue to participate in and support local and state scenic roads programs.
- 14. Protect and enhance existing visual gateways to the community and downtown and seek opportunities to establish new gateways at appropriate locations.
- 20. The town should develop an inventory of irreplaceable natural, scenic, and historical resources - "Landmarks" - that must be protected. These landmarks include, but are not limited to, features such as the Bennington Battle Monument, the covered bridges, the Hotel Putnam, Mount Anthony, and similar features that are of fundamental importance in establishing Bennington's unique character.

The recommendations and standards listed do not provide any further detail on what scenic elements are critical, which important viewsheds should be permanently protected, how new development shall be sensitive, or what it means to consider scenic resources in the development of renewable energy.

The Scenic Resources section of the Plan does not include a list of specific scenic resources but does refer the reader to the 2004 Scenic Resources Inventory, a "document [that] offers a general overview of the features that contribute to the community's scenic character and identifies specific landscape elements that are of special significance." It includes a discussion of "critical scenic elements" and "policies designed to promote scenic preservation through public and private action." (p.1) Critical resources defined in the Inventory include general natural and scenic elements like rivers and streams or mountains and ridgelines. Other relevant areas include:

"Well-defined gateways enhance the character of the community and are an important scenic resource in and of themselves. Gateways can be improved by effective land use planning and integration of site features such as landscaping or historic district signs." (p.20)

"Particularly important gateways are those located along the major state highways entering Town. Gateways along Route 9 from the east and west and along Route 7 from the north and south greet thousands of travelers every day. The recently opened Route 279 is another important entry point to the Town with natural gateway scenes." (p.20)

"A town is most often viewed from its public places, and the most visited public places in a community are its roads. As such, public highways are extremely important to a town's overall scenic character. Other public places such as parks and public trails serve a similar function in providing access to a town's scenic resources." (p.26)

"Bennington's comprehensive plan and zoning regulations are designed to limit development in outlying areas and encourage development in designated growth areas near the center of Town. The effect of such land use planning will be retention of a rural landscape surrounding the more densely developed historic Town center. This development pattern enhances scenic character by defining a clear line between village and rural areas, thus reducing the adverse consequences of unsightly sprawl and promoting natural gateways to the Town's center." (p.38)

As with sections of the Town Plan, the intent of the Scenic Resource Inventory is distinct – many places and landscape features in the town are important to the scenic character and visual quality of Bennington. Roadways serve as an important access to these beautiful areas and land use planning is important to retaining these attributes. There are many illustrative photos of pretty views along roads and across

2. The Quechee Analysis

meadows, but the Project area is not specifically identified on the Scenic Resources Overview Map, and there is no list that distinctly calls out the Project site. Moreover, there are no specific goals or policies that would specifically apply to the Project, or standards that detail how the Project should be developed to meet those goals and policies. In this respect, the Project does not violate a specific community standard outlined in the Scenic Resource Inventory.

The Town also has a Park and Open Space Plan (2009), which contains a few general goals and policies related to scenic quality, but none that would be considered a clear standard applicable to the Project site, and include:

“Ideally, the town’s parks and open spaces are varied, but also interconnected in a way that promotes access and contributes to overall scenic quality.” (p.1)

“Townspeople also have made it clear that preserved open space areas in the rural parts of Bennington (i.e., outside the growth center) are extremely important for a number of reasons, including: scenic value, local agriculture – both private farming and community gardens, forest related resources and businesses, and for a host of recreational activities.” (p.8)

“Travelers and tourists who visit Bennington appreciate the town’s history and scenic beauty, and many also enjoy hiking, hunting, skiing, bicycling, and other recreational activities that are available locally and in the region. A greater emphasis on these natural resource-based activities could encourage more people to visit Bennington, stay for an extended period of time, and support local businesses.” (p.8)

In conclusion, while many aspects of the Regional and Town Plans indicate an intent to preserve rural character, scenic views, and important landscapes through broad goals and policies, there are no specific standards that explicitly protect identified resources, or that specify the Project area as a scenic resource, thereby concluding that the Project will not violate a clear written community standard intended to preserve the aesthetics or scenic beauty of the area in accordance with the Quechee test.

2.2.B Does the Project offend the sensibilities of the average person? Is the Project, when viewed as a whole, offensive or shocking, because it is out of character with its surroundings, or does it significantly diminish the scenic qualities of the area?

For this particular project, the primary reason it will not be offensive to the sensibilities of the average person and the key to the Project’s potential acceptability within the parameters of the Quechee “test” is the presence of existing vegetation. This vegetation is absolutely critical to reducing the visual presence of the 9.64 acre clear-cut and dense layout of the solar panels the Apple Hill Project represents. The consequent impact it would have if no such vegetation were present would definitely be considered an offensive, disharmonious development.

This area has been referred to in the Town’s 2004 Scenic Resource Inventory as part of a gateway area (pp.20-21) and that has certainly been reinforced by the substantial investment by the State of Vermont and its taxpayers in the new state-of-the-art Welcome Center. A Welcome Center is designed to support tourism and to celebrate the scenic and cultural qualities of Vermont and this facility certainly does that. I think it could be concluded that this project, as proposed, even if moderately visible, would be deemed unacceptable and offensive to the notion of an intact, green backdrop for the Welcome Center’s “front

2. The Quechee Analysis

yard” view. Without that existing vegetation, and the necessary additional screening, and the maintenance for the life of the project of sufficient screening, the project on this hillside would be offensive, out of character and would diminish the positive landscape qualities that exist today in this gateway environment.

However, some individuals living in the project vicinity and abutters will indeed find the Project offensive – and this sentiment has already been voiced in the proceedings to date. The loss of such extensive forestland and the consequent change in the landscape character of the neighborhood will change the current scenic quality. That scenic quality, regardless of whether or not it has been specifically identified (and to a reasonable extent it has - the district itself implies scenic qualities as a “Rural Conservation” District – and this is articulated in the 2015 Town Plan on page 28 – there are specific references to the open space character and protecting scenic qualities) is self-evident when one is in the neighborhood to the north of the Project – along Apple Hill Road and adjacent roads and drives. The change in character, the extensive loss and decimation of an existing forestland on a prominent hillside will potentially be offensive to those who live there and will experience this change on a daily basis - along with the potential for related impacts such as highway noise and the increase of southerly and westerly winds due to the extensive loss of vegetation (In the initial Chelsea Solar Case Order Docket 8302, p20, the applicants admitted that there would be an adverse impact from wind increases due to the loss of forest vegetation) .

It must also be pointed out that solar projects and the related landscape changes are becoming more prevalent in the Vermont landscape and thus the average Vermonter is becoming used to such projects and changes these projects create in the landscape. In this instance, the retention of perimeter woodland and hedgerows on the project property helps to reduce the perceived and visible change in landscape character and scenic quality. Given the representation of limited visibility, and with sufficient, appropriate and reasonable mitigation measures put in place, as set forth in the next section of this analysis, this Project should not reach the threshold of offending the average person or create an unacceptable change in character and diminishment of scenic qualities.

Apple Hill Solar Project. With regard to the adjacent Apple Hill Solar Project, this review does not incorporate a specific or detailed analysis of that proposed project. However, just in terms of size and scale, when taken together with the proposed Chelsea Solar Project, there is a distinct possibility that the cumulative impacts posed by the second, additional project would exceed thresholds of acceptable changes, particularly with regard to fit, character, and visual and “perceived” presence (knowing that it is there and knowing that it has substantively altered and removed an important visual element and forest function).

2.2.C Has the applicant taken generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed Project with its surrounding?

Another means by which to assess the mitigation steps has also been articulated via the Quechee test and the question could be rephrased as: *Has the applicant taken generally available mitigating measures that a reasonable person would take to reduce the adverse effects of the project?* This wording reflects the fact that this review has concluded unequivocally that the Project has an adverse effect on the project surroundings, the character of the area and its scenic beauty (and the applicant’s aesthetic consultant agrees with the adverse determination), and thus requires sufficient mitigation measures to reduce the identified adverse effects.

2. The Quechee Analysis

Adverse is defined in part as “unfavorable”, “harmful” or “in opposition to one’s interests”. As discussed elsewhere in this review, there are a number of factors that lead to the finding of an adverse impact should this project be constructed. The clearing of potentially more than 10 acres of existing forested hillside removes an existing intact landscape element and substantially changes the landscape character and “affect” of the project site and environs.

The proposed Chelsea Solar Project as a stand-alone project has incorporated several primary mitigation measures, according to the information provided by the developer and the developer’s aesthetic consultant, Mark Kane, in his *Visual Assessment Report* (Exhibit CS-MK-2) and these include:

1. The provision of buffer areas with existing vegetation.
2. Proposed landscape mitigation measures in two planting zones, as illustrated in the Applicant’s exhibit (AHS-MK-12) – which combines the Chelsea Solar Project with Apple Hill.
3. Burial of the electrical lines within the project boundaries – although this measure is now typical for most projects.
4. Various modest, typical and expected mitigation measures that are common sense, accepted practice and not, in and of themselves, unique or above and beyond what any developer would do and these include: Selection of “slim mounting brackets” that allow the array to follow the contours along with dark toned supporting structures; wooden poles to connect the project’s power output to the grid; low reflective photovoltaic surfaces for the arrays; fencing around the project boundary; and the location of inverter skid in an area screened by retained existing vegetation.

These are all viable measures but not sufficient to satisfy the charge and intent of the mitigation process. Given the sensitivity of the site, the fact that it is an existing intact woodland that reinforces a town gateway area, that there is a definable and valued character to the neighborhood and the RCD which will be impacted and altered by this project, this analysis contends that there is more to be done to mitigate the potential negative effects of this project.

There are several other mitigation measures cited in the Mr. Kane’s *Visual Assessment Report* that are less consequential, one of which I believe can’t be considered true mitigation measures or may have mixed effects. Two examples include:

1. Site selection and site selection for a south facing slope (Item b. on page 42 of the *Visual Assessment Report*) in and of itself does not necessarily constitute reasonable mitigation particularly without any documentation of other more amenable sites having been explored. Selection of a south facing slope is a given if you siting a solar project on a hillside. The site drops “approximately 94 feet over the distance” according to Mr. Kane – a significant grade change. It’s irregular contours and slope will make the arrays appear also irregular, and while this is not an unusual or unacceptable form, it can be jarring and odd looking to some observers.
2. Not selecting a site identified for conservation (“The Applicant has chosen a site which is not identified for conservation or open space protection” -*Visual Assessment Report* page 42) is also a logical and inherent step in any siting project of this nature and does not really constitute mitigation except that the applicant can cite the fact that they have tried to avoid sensitive sites. Alternatively it can be argued that selecting a site in the Rural Conservation District creates and created questions of compliance with the purpose and intent of that district as per the Town Plan;

2. The Quechee Analysis

Mr. Kane himself cites the low-density nature of the current district and both the plan and zoning ordinance speak to the character and density of the district. The Project as proposed creates over 7 acres of total development infrastructure within the fence line – and more clearing for the access road and electrical connector (with or without the Apple Hill Project). The applicant has estimated a total of 9.6 acres of clearing. The industrial structures and associated elements at this scale do not comprise a low-density development that fits the character of the landscape – and the Figure Ground drawing provided in Figure 3 demonstrates this when you at the footprints associated with one or both of the p [proposed projects in comparison to the size scale and pattern of other footprints in the District, and even the industrial scale buildings to the west and southwest.

Several key issues or changes in the landscape due to the Project have been omitted in the analysis of aesthetic impacts, and should be accounted for somehow, and as appropriate in the mitigation approach for this Project in order to avoid an undue adverse impact on aesthetics and the scenic beauty of the area. These include:

- The extent and nature of the clearing (9.6 acres) and the overall disturbance (an estimate not provided by the applicant) of the site. Even if you can't see it, it doesn't change the fact that this site will be irrevocably altered with tree removal and site disturbance. But the applicant admits that the project will be visible: "While the extent of visibility is not large, the clearing associated with the Project will be noticeable" (Exhibit CS-BW-43, testimony of Mark Kane, page 4). Along the western boundary of the project about 100 feet of vegetative buffer will remain, and the mitigation plantings proposed to reinforce this buffer will struggle to survive initially and it will take some time, if all goes well with these plantings, for them to provide effective mitigation particularly in wintertime.
- The health and retention of existing vegetation that is relied on for screening, as well as any detailed analysis of forest health and long-term screening efficacy has not been addressed. Previous cases before the PUC and Act 250 Commissions have established the fact that extensive clearing has an impact on the edge trees that remain - they remain more susceptible to windthrow, sunscald and icing. Forest trees are part of a community of trees that collectively protect and buffer individual trees from adverse effects of climate and humans.
- The actual extent of tree loss and clearing that will result from the access road improvements and the proposed electrical connector line has not been specifically determined or analyzed. Pole placement and heights at 38 feet will result in the need for some tree and vegetation removal. Note that for the GMP Panton Solar Project (Docket 8637) the entire distribution line upgrade from Panton to Vergennes was analyzed for visual impacts and loss of vegetation by SE Group.
- Mitigation plantings in the state highway R.O.W. or on private property do not provide the guarantee of screening for the life of the Project. The state can remove trees from the R.O.W. as needed and there is no confirmed commitment or agreement between the Applicant and VTrans for mitigation plantings on state property, or who will care for these type of plantings for the life of the Project.
- Current projects that have received CPGs based, in part, on landscape mitigation have demonstrated the challenges with establishing mitigation plantings successfully in both the short and long term.

2. The Quechee Analysis

The Applicant has failed to adopt sufficient mitigation measures that are available and reasonable to avoid an undue adverse impact. However, this review forwards several reasonable and available steps, in addition to those already cited by the Applicant, to satisfy this criterion. These measures include:

1. Post construction review with all parties of all proposed mitigation plantings and the Applicants commitment to add additional plantings on its property or elsewhere to ensure long term screening if and as necessary.
2. Post construction perimeter clearing review with all parties for additional loss of vegetative screening that has not been addressed or accounted for in any detail in the Applicant's initial review and application materials. The Applicant has partially addressed this in the mitigation measures and it is expected that there may be further loss of trees from clearing than has been identified, but the plantings are primarily for the western boundary.
3. A specific analysis and mitigation plan as appropriate or necessary for all external elements including the electrical line connection along Willow Road, Hewitt Drive, and the access road.
4. Forests are not static landscapes. This forestland will change, understory will potentially disappear or grow into canopy trees reducing some of the future screening potential. There are very few evergreens in the buffer areas being cited as mitigation for this project. Therefore, the Applicant needs to conduct an analysis of this existing forest vegetation and provide an agreement as to the long-term conservation and maintenance of all the buffer lands that are construed to be part of this Project's viability as screening elements. This analysis must address the efficacy of the screening pre and post construction and a forest management plan is to be developed to ensure the ongoing health and growth of this forest cover. The Applicant needs to provide guarantees that the buffer will continue to serve the purpose for which it is being relied upon. All parties will need to review and sign off on this process and the products and activities requested and necessary.
5. The Applicant must confirm that the proposed new mitigation plantings that are not on the Project property will be possible to plant and will be maintained in good health and as effective screening for the life of the Project.
6. Protection and retention, for the life of the project, of the apple orchard to the north of the property.

If these additional 6 measures are implemented and conditioned as part of the CPG, it can be concluded that the Project has employed generally available mitigation measures that a reasonable person would take to improve the harmony of the proposed Project with its surroundings.

2.3 Overall Conclusion

The review of this project, with the prospect of the addition of the Apple Hill Solar Project on this site, has been challenging. There is a background and history for this site and the developer given the previous applications for this parcel by the same developer. A number of issues have been raised previously and the decision of the Public Utilities Commission on the previous application (Docket 8302) cannot be overlooked for its precedent and rationale. Clearly the town's opposition, and that of neighbors to the Project(s) have informed this review and factored into both the revision to the Apple Hill Project and the current re-application for the Chelsea Project.

2. The Quechee Analysis

The Chelsea project as proposed will result in an adverse impact to aesthetics and the scenic beauty of the area. The Applicant's consultant concluded that the Project was not even adverse and this conclusion seems to be based almost solely on its lack of visibility and the Applicant's mitigation measures. But we do not base the test of adverse impact on visibility, nor is an aesthetics review purely a test of off-site visibility – rather it has to incorporate considerations of the physical fit with the site itself, its impact to neighbors, and the qualities of aesthetics which include smell, sound, design and importantly, sense of place and well-being. The intent and actions of the host community also weigh into the analysis of adverse impact, particularly if aspects of the project run counter to standards in place and the sentiment of the town with regard to the site and the collective view of the project's potential for aesthetic and environmental impacts. The extent of clearing, the imposition of an industrial scaled, rectilinear project layout fights rather than readily fits this site and its forestland and topography. It is not in character with the landscape conditions and aesthetic qualities present on the site and in the district.

This review acknowledges and recognizes the efforts of the Applicant to make this project more amenable, despite the physical and statutory hurdles that need to be surmounted. It is also evident that an effort was made to come in under specific thresholds in terms of scale and forest acreage lost – a direct response to specific community standards. A number of additional and specific mitigation considerations and measures, in addition to those set forth by the Applicant, have been set forth in Section 2.2 C of this report and will need to be fully addressed to avoid the determination of “undue, adverse”. With that said, even with those additional mitigation methods implemented, this Project just barely clears the thresholds of Quechee.

In conclusion, the Project, as currently proposed, will result in an undue adverse impact on aesthetics unless the Applicant adopts the mitigation recommendations developed in this review by LandWorks, and the identified concerns are addressed, in which case it can be concluded that the Project will not result in an undue adverse impact on the aesthetics and scenic beauty of the area.

3. Orderly Development

3. Orderly Development

Orderly development refers to the systematic planning and development of land uses and associated infrastructure in a region or municipality. It is based on a legal process that sets forth land use parameters and regulations to guide future development in a pattern envisioned and adopted by the jurisdictional authority. In reviewing projects for their consistency with the orderly development of the region, the onus is on the Applicant to provide the basis for concluding that the project, as proposed, is consistent with the accepted and established provisions and patterns of development in the town and the region. In addition, any evaluation of Orderly Development must assess the land use and landscape dynamics “on the ground”. The project may or may not fit well with surrounding uses and/or conditions. The nature of the landscape may have distinct limitations or environmental or aesthetic “costs” related to development.

Before the Public Utility Commission issues a certificate of public good for an electric power project such as Chelsea Solar the PUC must make positive findings that the project will not “unduly interfere with the orderly development of the region”:

... with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. (30 V.S.A. § 248(b)(1))

Additionally, in the case of Chelsea Solar, we must anticipate the development, by the same applicants, of Apple Hill Solar, and the potential for cumulative impact and how that relates to Orderly Development. The previous decision regarding the first Chelsea Project, in which the Public Utilities Commission found that the project as proposed unduly interfered with orderly development, informs our review of this project as well.

The evaluation of a project can yield a conclusion that a project is either consistent or conflicts with Orderly Development. As the language in the statute states, the analysis must include a review of both the municipal and regional plan parameters for development in this district as well as an understanding of the intent of those plans and the positions of the respective authorities. Our review is based on the 2010 Bennington Town Plan, the 2004 Town of Bennington Scenic Resource Inventory, the 2009 Bennington Park and Open Space Plan, and the 2007 Bennington County Regional Plan.

Additionally, this review acknowledges and incorporates the information and perspectives provided by representatives of the Town and materials available in the Docket. A technicality with regard to timing prevents this review from relying on the most recent Regional Plan as well as the Town Plan adopted in 2015. The 2015 Town Plan provides additional and relevant guidance with regard to solar development in locations such as the Rural Conservation District. These changes are a reflection of community intent and its position with regard to solar developments such as Chelsea Solar. However, and as stated, this review relates to and references the 2010 Town Plan. It begins with the statement(s) of purpose for the Rural Conservation District of the Town of Bennington in which the project is located, a statement from the applicable 2010 Town Plan:

3. Orderly Development

“Considerable acreages of agricultural land exist in these areas, along with extensive woodlands and low density residential development. The purpose of the Rural Conservation Districts is to preserve this distinctive rural character while accommodating low density residential development in a manner that avoids the need for public water supply and public sewer systems.”.

(Bennington Town Plan (2010), page 26)

The intent of the plan for this district is also reinforced by the statement on page 26 that:

“Agriculture, forestry, very low density single-family residential development, and certain limited uses that are suitable in rural areas are permitted in the district.”

Specific design standards for the district clearly state that:

“Development in this area cannot be sited in prominently visible locations on hillsides or ridgelines, shall utilize earth tone colors and non-reflective materials on exterior surfaces of all structures, and must minimize clearing of natural vegetation,”

While the most recent iteration of the Town Plan adds additional specificity and requirements related to solar development, even the 2010 version provides sufficient language and understanding to provide a basis for whether or not this project will or should be considered or is consistent with “Orderly Development”.

The zoning ordinance for Bennington, as with all zoning, is designed to reflect the land use intent of the Town Plan and the purpose statement set forth in the ordinance for this specific district is articulated in a similar way:

“Purpose: The purpose of the Rural Conservation District is to preserve the rural character, scenic landscape and natural resources of the area while accommodating low density residential development in a manner that avoids the need for public water supply and public water systems.”

(Land Use and Development Regulations, Town of Bennington, Table 3.13, page 53.)

Pertinent town (*Bennington Town Plan-2010*) and regional plan (*Bennington County Regional Plan – 2007*) guidance provides a number of relevant provisions that this project must be consistent with and those provisions are identified elsewhere in this review under the Second Step of the Quechee Analysis, but several are cited here for their relevance to planning process that are part of the orderly development of the municipality and region:

From the *Bennington Town Plan*:

Goals

2. Plan development to maintain the town’s historic settlement pattern of a well-defined urban growth center surrounded by rural countryside.

Development in rural areas shall respect the need to protect the town’s natural resources and scenic landscapes. Sprawl–dispersed, auto-dependent development outside of compact urban

3. Orderly Development

and village centers, along highways, and in rural countryside—is costly, inefficient, and unattractive and will be strictly limited. (page 2)

3. Recognize the importance of significant natural, scenic, and historic resources.

Make use of public investment, regulation, and creative development techniques to protect open spaces, natural and fragile areas, scenic views, and historic sites, structures, and districts that are significant to the community.

(page 2)

Under Land Use Policies and Recommendations:

17. “Rural Conservation Districts shall continue to support traditional low density rural and agricultural uses. Extension of municipal water supply and wastewater disposal lines to these areas shall be prohibited. New residential development in the area shall be carefully planned to protect important agricultural land and other natural and scenic resources. Major subdivisions shall meet the standards of a Residential Planned Unit Development (PUD) to protect Bennington’s traditional rural and agrarian landscape.” (p. 29)

This site is, as identified previously, part of an identified scenic resource area referred to as a Gateway area. A number of policies on p[age 49 in the 2010 Town Plan relate to this project site and the proposed development to take place upon it:

- “•11. Development of renewable energy resources should consider both the need for locally produced energy and the need to protect natural and scenic resources.*
- 12. New development shall be sensitive to scenic resources and shall be planned in a manner that preserves the visual integrity of critical scenic elements and visual qualities.*
- 13. The town should work with conservation organizations to permanently protect important viewsheds through purchase of properties or scenic easements. The town should continue to participate in and support local and state scenic roads programs.*
- 14. Protect and enhance existing visual gateways to the community and downtown, and seek opportunities to establish new gateways at appropriate locations.”*

The 2004 Town of Bennington Scenic Resources Inventory also provides guidance and understanding as to 1) what the town values with regard to its landscape and land use patterns and 2) how these values are to be preserved by planned and orderly development.

Scenic Resources

Special attention should be given to visual gateways: points of transition along a public highway where it is evident that the traveler is arriving at a unique place. Gateways are located at entry points to the historical downtown and at places along rural highways where significant visual elements of the town’s landscape first appear. These features can be improved through effective planning of adjacent land uses and integration of site features such as landscaping and careful placement of historic district signs. (page 45)

The Scenic Resource Inventory identifies the project area as part of a gateway and highlights several pertinent considerations, including the view from the road:

3. Orderly Development

“Well-defined gateways enhance the character of the community and are an important scenic resource in and of themselves. Gateways can be improved by effective land use planning and integration of site features such as landscaping or historic district signs.

... Particularly important gateways are those located along the major state highways entering Town.” (page 20)

“A town is most often viewed from its public places, and the most visited public places in a community are its roads. As such, public highways are extremely important to a town’s overall scenic character.” (page 38)

The 2007 *Bennington County Regional Plan* provides an overall sense of how the County’s planners envision development in the region. These narratives, and their associated goals, while broad in perspective, inform our understanding of the regional vision for land use and development, and this project can be “tested”, to a certain extent, with regard to the extent to which the proposed development forwards or fights the goals and the vision. The Regional Plan acknowledges the relationship between open spaces, resource protection and the viability of economic development and tourism. The Plan considers scenic and natural resources to be economic assets. It recognizes that there is a balance between identifying appropriate areas for commercial and industrial development and preserving or protecting areas from development that would impact or erode that balance. Some examples from the plan are evidence of this overall intent.

From the *Bennington County Regional Plan*:

“Goal: “Protect important natural and historic resources” where the plan states, “Particular attention should be given to: significant natural and fragile ecological areas; important features of the landscape; scenic roads, waterways, and views; water resources including lakes, aquifers, rivers and streams, and wetlands; forests; prime agricultural soils; earth resources; air quality; and historic structures, sites, and districts.” (p.4)

Unique Natural Features and Scenic Resources (p.45):

“...the natural appearance of the region's landscape is fundamental to its rural character and appeal. As such, it is clear that scenery is a very real economic asset. People are drawn to this area by the beauty of the hillsides, mountains, rivers, fields, and the traditional townscapes that are complemented by this natural landscape. These scenic values should be protected. A beautiful agricultural valley set against a backdrop of wooded hillsides is surely more valuable to the region than the same valley beneath a hillside that is cluttered with unsightly buildings.”

Act 200 and most regional plans in the state have set forth a prime characteristic and goal for developing in Vermont’s landscape and that is a clear separation between growth centers and clustered village/town development patterns and the rural open spaces that surround them. This has become core tenet in Vermont planning. This is reinforced in the Regional Plan on page 51:

3. Orderly Development

“Future development should be concentrated in and around growth centers...that is, the urban centers and villages in the region. These centers of development and activity should be surrounded by a rural landscape of farmlands, forests, and small rural residential communities. Moreover, the demarcation between growth centers and the rural environment should be quite distinct. Growth Centers require careful delineation to accommodate future growth while protecting the values of the rural countryside. If development is allowed to sprawl outward from urban areas and villages the intervening open lands will eventually disappear and the region will have lost much of its distinctive rural character and appeal. Such a pattern of sprawling development would also reduce the ability of towns to provide efficient and economical services and would waste energy resources. The land use plan, therefore, directs new growth to urban and village areas and allows the type of development in rural areas that will not prove costly to municipalities nor detract from the region's rural character.”

Orderly Development is not just about whether or not the land can be conserved or has impacts to already conserved open space. While the RCD does not preclude development, it is clear from the current town sentiment and efforts in changing the Town Plan that the community and the neighbors did not and do not envision a project such as this with the potential for 1) visual and aesthetic impacts, 2) impacts to adjacent neighborhoods and the rural character that is delineated for this district and its neighborhoods; and 3) the erosion of the buffers and forestland which comprise and create the character for the district edge and gateway area. Finally, while the RCD does not preclude development, any large scale residential development must be in a PUD which typically requires conserved lands to be set aside – and also recall the purpose of the district: *“The purpose of the Rural Conservation District is to preserve the rural character, scenic landscape and natural resources of the area while accommodating low density residential development... .”*

The applicant's review does not include a detailed discussion of the planning aspects of how orderly development is construed by the town. It is true that the Project footprint does not exceed the 10 acre threshold established in the 2015 plan (which is not applicable here due to the PUC ruling). If the associated development for access roads and clearing is added in it is likely that the project will exceed 10 acres. It is also true that revisions to the original plan now provide a better screening capability via the compressing of the solar array layout and the retention of strips of surrounding woodlands as a visual buffer. But visibility and mitigation measures alone do not fully address consistency with orderly development nor do these steps in and of themselves speak to whether or not the proposed development will conflict or conform with the intent of the town and its planning standards.

This district, except for the highway infrastructure to the south, is a distinctly rural, non-industrial landscape with a low density development character that lacks the type of physical intrusion and footprint that this project represents. Over a mile of new electrical connector line is required for this project (without Apple Hill). There is no substantive discussion in the applicant's submissions of the land use dynamics in place currently, and how this project reflects or is consistent with the patterns of development and existing infrastructure.

It is true that solar development has been permitted elsewhere in the Rural Conservation District, which includes several distinct areas mostly north of the commercial and industrial core of the town. While solar energy development can be considered a new form of the working landscape, its suitability for any one

3. Orderly Development

location and its reaffirmation of the existing and desired development patterns present in this part of Bennington has to be vetted for its overall fit and consistency with the district's development patterns and the district's purpose.

A landscape analysis of the district and/or project area and how it has developed to date has been conducted as part of this review to determine the physical fit with desired and existing patterns. Aerial views coupled with on the ground analysis combine to yield an inventory of key land use dynamics and this inventory provides the following observations in connection with the proposed project:

Land uses and building footprints – the land uses and building and site footprints are dramatically different in the RC District when compared with the other land uses and footprints just to the west and south of the highway corridor and interchange area. The scale and footprint of the proposed Apple Hill project is not consistent with the surrounding land use footprints – it far exceeds the size and scale of adjacent land use elements and development in the district. Even though the project is under the 10 acre threshold made part of the community standards as set forth in the Solar Siting element added to the Town Plan in 2015 (page 5), and does not contradict any size restrictions in the 2010 plan, it is clear from the language of the older town plan that this project footprint and the intensely developed clustering of the arrays over that acreage was not what was envisioned in this district. The basic language set forth in the plan, which hasn't changed since 2010, makes it clear that “distinctive rural character” and “very low density residential” comprises the key qualities of the district. The maintenance of large blocks of productive forest lands – also a town, and indeed state goal, is another principle which this project does not support.

Allowable uses may include an “electric facility” but it is not articulated as an energy generation or transmission facility or in this district such a facility could be a substation or an electrical component related to an agricultural or residential use.

Transportation and infrastructure networks – a portion of the state's primary transportation network – the major national highway system routes that are represented by Routes 7, 9 and 279 - surrounds this site and substantial investment has been made in a Welcome Center that is oriented directly towards this site. The visual and functional “bright line” that this corridor and infrastructure represents is buffered and balanced by the undeveloped and rural qualities of the RC district which comprises the southern and eastern boundaries of the highway's extensive road network, drainage infrastructure and related utilities such as highway lighting. Currently, and in the future, it will be important to maintain this “bright line” and land use boundary so as to continue to provide an appropriate backdrop for the Welcome Center and the experience of visitors as they arrive in Vermont and the town's gateway area.

The access road to the site is a woods road and will need to be upgraded either for Apple Hill or for this project. As part of the Apple Hill project roughly 0.9 miles of new electrical connector line has to be developed which will also serve Chelsea Solar. Extensive clearing and the regrading of portions of the site are required to accommodate the project. Taken together these factors begin to lead to a conclusion that the site is not an ideal site for this size and scale of a solar generating plant.

Land conservation – land conservation is a typical component of any planned residential development and is also the result of agricultural uses such as the apple orchard present to the north of the site and the “very low density residential development” desired for this district as set forth in the Town Plan. This

3. Orderly Development

project does not conserve open space or rural character. It impacts and potentially undermines rural character.

Land cover/vegetation/topography. The Applicant highlights how the project follows the contours, but a review of the topography and its orientation, as shown in Figures 2a and 2b, clearly demonstrates how the panel array fights rather than follows the overall orientation and slope of the existing contours – a westerly slope is not necessarily conducive to the placement of solar arrays. The footprint exceeds a substantial amount of any other developed footprint in the district, particularly those nearby, and the removal of almost 10 acres of clear-cut forestland will create an unnatural and awkward pattern in the landscape. More vegetation will likely be lost at the edges of the remaining forestland due to wind and ice storm vulnerability, change in exposure and other factors.

As this report's analysis sets forth under the first step of the Quechee Analysis, the fit and compatibility of the Project is not in harmony or consistent with the character of the district's landscape. In terms of development patterns and orderly growth and development, Figure 3 presents a figure ground analysis to demonstrate the "bright line" referred to previously. This distinct boundary separates the low density, rural, agricultural, forested and scenic qualities of the Rural Conservation District from the growth and development of the surrounding districts that the town has zoned for orderly development. Beyond the bright line demarcating both the land uses and boundary of the RC district a distinctly different pattern is present. This pattern includes a more intensive highway infrastructure, commercial and industrial sites and their associated building and impervious "footprints" and higher density residential developments with multi-unit buildings. Apple Hill and the proposed Chelsea project individually and cumulatively are in direct conflict with the established development pattern that has evolved and is intended by the town.

Thus, this report concludes that the project as proposed:

- Is incompatible with the rural character – a 10-acre solar project so dense creates an industrial affect to the land use which is clearly prohibited in this district;
- Is inconsistent with the land use goals of the community as set forth in the Town Plan and as articulated by town officials and residents who live in the vicinity of the project;
- Does not reflect the existing and desired land use patterns of this area and the site and environs is distinctly different and separate from the highway infrastructure and more dense industrial, commercial and residential development to the west and south outside of the district; and, finally;
- Has to significantly alter the site to make it amenable for the proposed development.

Taken together, these factors and the foregoing analysis conclude that the Chelsea Solar Project will unduly interfere with the Orderly Development of the Region. Based on this analysis, if the Apple Hill Project is approved for a CPG, the conclusion for the Chelsea Solar Project with regard to Orderly Development will also be that it will result in an unacceptable cumulative impact to the site, further undermining the character and intent of the RCD.

FIGURE 1. Context Map

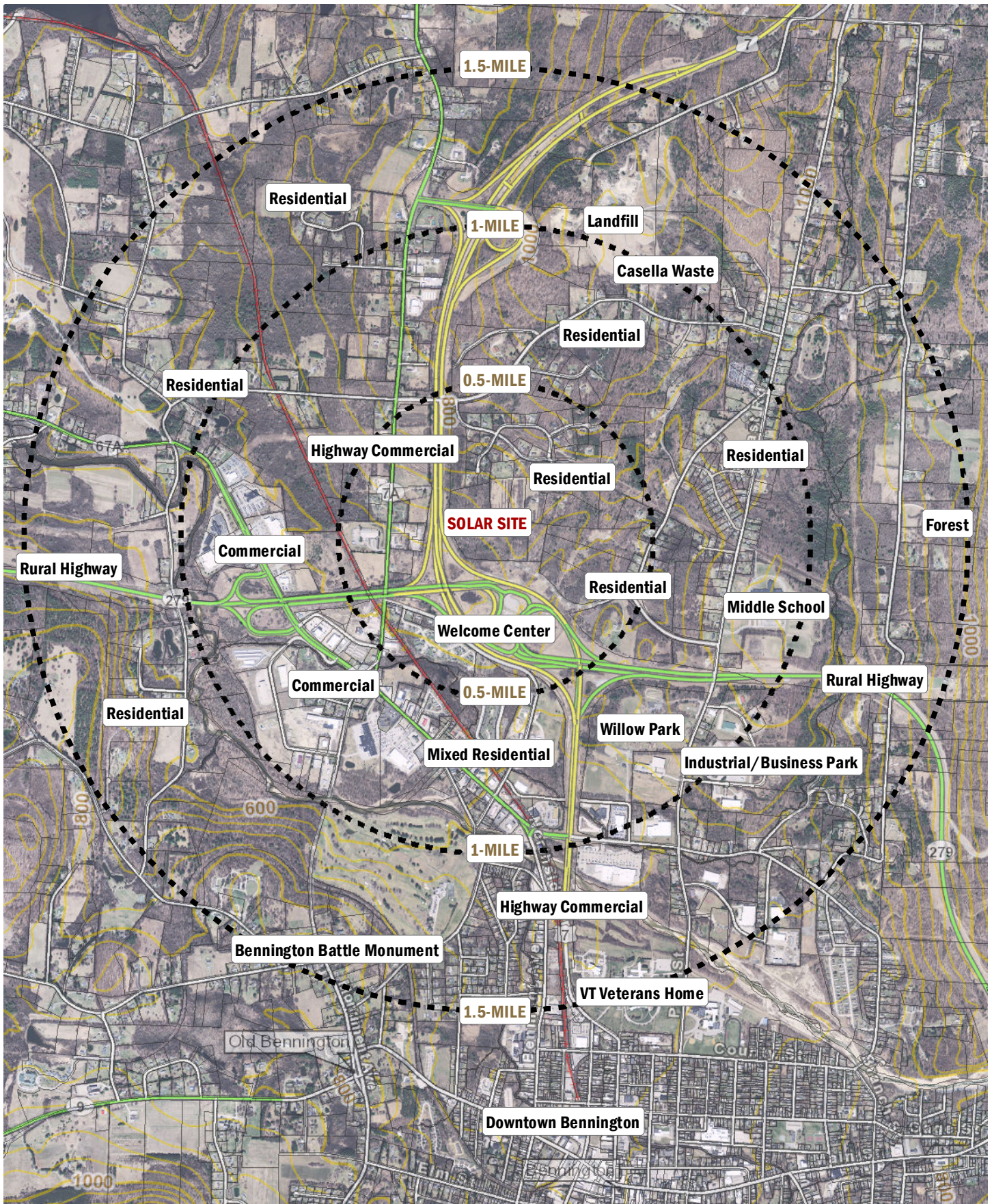


FIGURE 2: Existing Conditions & Analysis of Project's Physical "Fit"

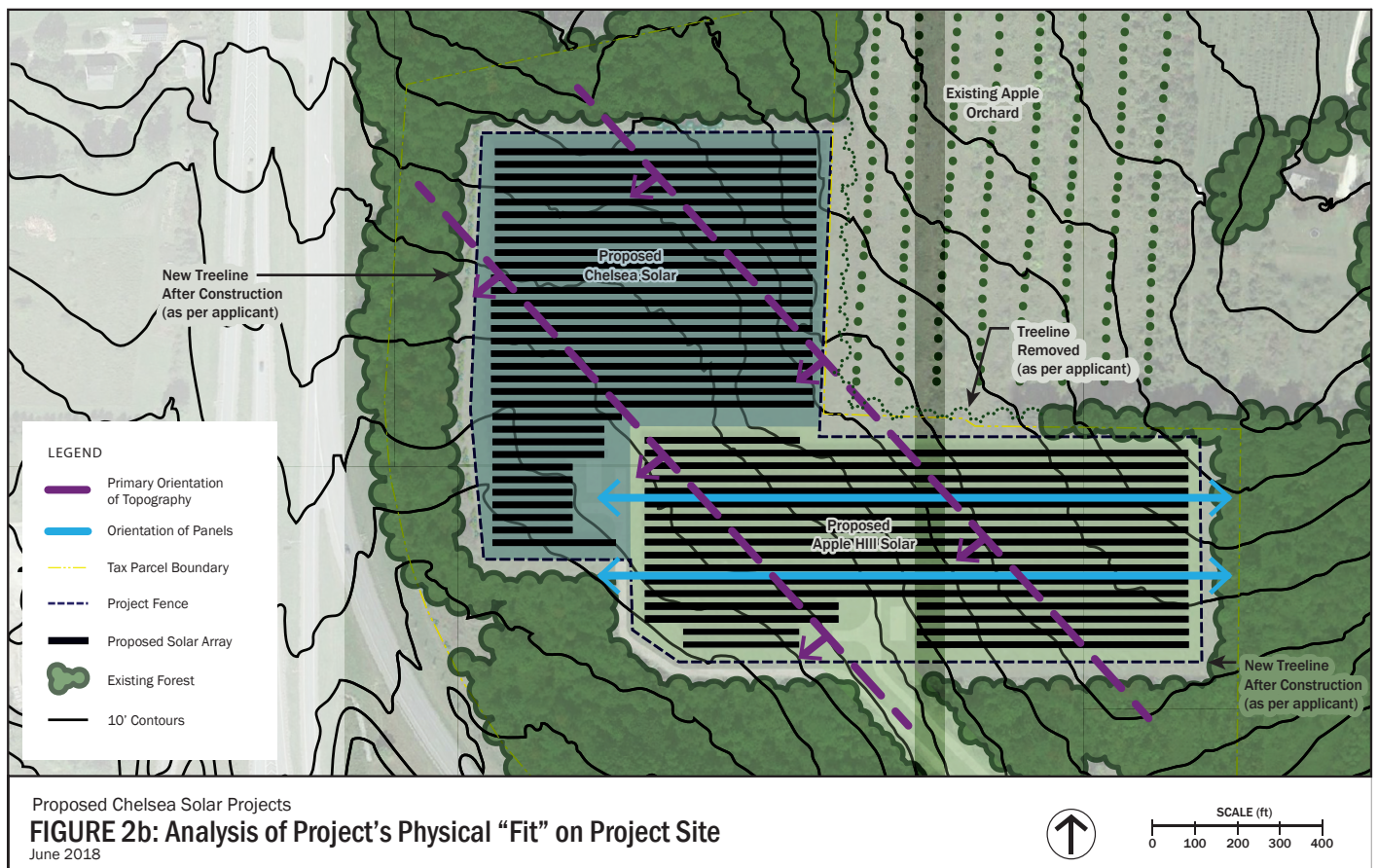
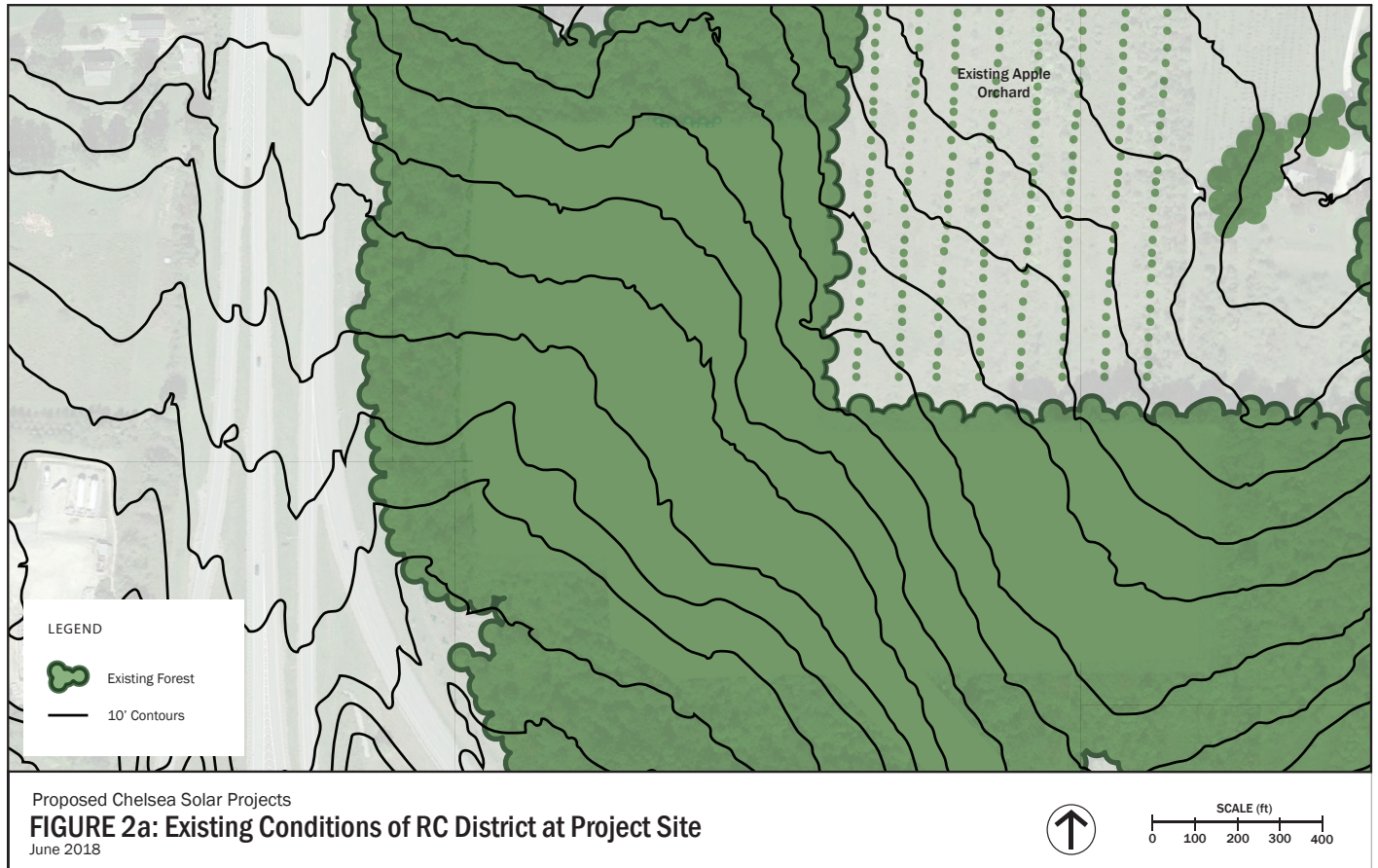


FIGURE 3: Figure Ground

