

## Three Corners Solar Project

MDEP Natural Resources Protection Act Permit Application

### ATTACHMENT 2. ALTERNATIVES ANALYSIS

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The NRPA wetlands rules (06-096 CMR Chapter 310) require that an applicant evaluate whether a less environmentally damaging practicable alternative to the proposed wetland alteration, which meets the project purpose, exists (06-096 CMR 310.9.A). The Maine regulations define practicable as “available and feasible considering cost, existing technology and logistics based on the overall purpose of the project” (06-096 CMR 310.2.R). This Alternatives Analysis and the information set forth in Section 7.0 of the Project’s Site Law permit application demonstrate there are no less environmentally damaging practical alternatives. The following details the process by which the Applicant developed and evaluated various alternatives to arrive at a design solution that meets the Project purpose and need, while avoiding and minimizing environmental impacts to extent practicable.

### 2.1 PROJECT PURPOSE AND NEED

The purpose of the Project is to construct an approximately 110-MWac solar energy facility located in Benton, Clinton, and Unity Twp, Maine and to deliver the power generated from the facility to the New England Independent System Operator (ISO-NE) electric market. In 2019, Governor Janet Mills and bipartisan majorities of the Maine Legislature passed new laws aimed at improving public health and strengthening the economy by reducing greenhouse gas emissions. The 39-member Maine Climate Council (MCC) was established to create a new Climate Action Plan to provide recommendations for achieving the state’s bold climate targets. This facility is intended to meet the needs specified in the December 2020 Maine’s *Climate Action Plan* created by the MCC.<sup>1</sup> Additionally, the Project will help achieve goals set forth for the state in the *Climate Action Plan* by: 1) reducing its greenhouse gas emissions by 45% by 2030 and 80% by 2050; and 2) increasing the amount of renewable power generated in Maine that is eligible to meet the goals of the state’s Renewable Portfolio Standard from 40% today, increasing to 80% by 2030, with the ultimate goal of 100% renewable energy by 2050.

#### 2.1.1 Economic Benefits

The Project will provide substantial local and regional economic benefits including additional tax revenue for the Towns of Benton and Clinton and Kennebec County; providing local employment opportunities through short-term jobs during construction and long-term positions during the operations and maintenance phase of the Project; and an input of clean and reliable energy to the ISO-NE power grid. Unlike most other forms of development, the Project is expected to place no additional demands on public services. The Project will also be an additional source of economic value for forest landowners, an important consideration as the value derived from timber and fiber production continues to decline. Solar projects are capital intensive to build but have no fuel costs, meaning that leasing space for them can bring major benefits to landowners. Landowners can choose to continue forest management activities and are less inclined to sell parcels of productive forestland for residential development. As such, the Project will create additional value for landowners and will help preserve the larger forest management economy.

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<sup>1</sup> Maine Climate Council. 2020. *Maine Won’t Wait: A Four-Year Plan For Climate Action*. Available online at: <https://climatecouncil.maine.gov/>.

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#### 2.1.2 Community Benefits

The proposed Project would result in significant community benefits. Under a 2020 memorandum of understanding signed by the Applicant and Unity College, the Project will provide \$10,000 per year for the first 10 years of the Project's operation to fund research opportunities to faculty and students in environmental science, natural resources, and other related programs at Unity College. The Applicant has also committed to fund efforts of the Sebec Regional Land Trust, which provides community access to over 2,200 acres within the region.

#### 2.1.3 Environmental Benefits

Power from the proposed Project, equivalent to approximately 30,000 Maine homes,<sup>2</sup> will displace more polluting expensive power generation sources. The proposed Project will have long-term benefits related to the use and conservation of energy resources, and as a result, will not contribute to climate change. The operating Project will not require water, discharge wastewater, burn fossil fuels, or emit pollutants, such as mercury and lead, sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) (criteria pollutants and precursors to acid rain and ozone), or carbon dioxide (CO<sub>2</sub>). Based on the Project generating capacity of 110 MWac, it is estimated that the Project will annually displace approximately 128,533 tons of CO<sub>2</sub>—equivalent to removing approximately 27,593 passenger vehicles annually.<sup>3</sup>

## 2.2 PROJECT SITING AND LAYOUT

Properly siting a solar project is a complex process involving many interrelated criteria such as environmental constraints, engineering design needs, and equipment requirements. Selection of a viable solar energy generation project site is based on several factors, including suitable topography, proximity to transmission infrastructure, compatibility with existing land uses, sufficient land area largely composed of uplands, and landowner interest and coordination. The overall Project design objective was to meet the solar energy generation requirements and minimize environmental impacts.

The first step in identifying a suitable area for siting a solar project is selecting a preferred point of interconnection (POI) to the electrical transmission system that has sufficient capacity to accept the anticipated power generated by a project. The Applicant selected the existing CMP Albion Road substation as the proposed POI in 2017, as the substation and associated transmission system have capacity to accept the power generated by the Project. The Albion Road substation has the space to accept the Project's power without extensive network upgrades or the need to expand beyond the existing substation footprint into adjacent resources, making this POI an ideal location to meet resource avoidance and financial feasibility objectives.

Since 2017, the Applicant has performed due diligence reviews and field surveys to assess over 18,000 acres, including the proposed Project area, in the vicinity of the POI to select a feasible site for the construction of the Project. Five prospective solar array areas were evaluated using publicly accessible screening level data such as SWH, National Wetland Inventory (NWI) data, the National Hydrography

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<sup>2</sup> Based on average household use of 570 kilowatt hours per month (EIA-861: schedules 4A-D, EIA-861S, and EIA-816U).

<sup>3</sup> Determined by the EPA Greenhouse Gas Equivalencies Calculator.

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Dataset (NHD), Natural Resources Conservation Services soil data, conservation lands, and cultural and scenic resources, along with wetland and waterbody field reconnaissance.

Additionally, the Applicant considered the potential for impacts to surrounding scenic and recreational resources. A search of identified scenic resources<sup>4</sup> located within 5 miles of the Project area was conducted and included resources such as scenic lakes, ponds, or rivers, scenic byways, state or national parks, viewpoints within national forests, or structures on the National Register of Historic Places. The Visual Impact Assessment memo, including the MDEP Visual Checklist, is attached as Appendix A. The full Visual Impact Assessment, including viewshed maps and photo simulations is included in Section 6.0 (Exhibit 6-1) of the Site Law permit application.

## **2.3 ALTERNATIVES**

### **2.3.1 Prospective Solar Array Areas**

The five prospective solar array areas, including the proposed Project area, were identified due to their proximity to the Albion Road substation. Each of the five prospective solar array areas are located within 10 miles of the Albion Road substation. The review criteria for the five prospective solar array areas included property information, required transmission infrastructure and length, natural resources constraints, and visual impacts. Review criteria were assigned a qualitative rank based on potential constraints that would block the Project Purpose and Need (Low to High) to compare the prospective solar array areas. These areas are detailed below, summarized in Table 2-1 below, and depicted on Figure 2-1.

#### **Alternative Area 1**

Area 1, totaling approximately 4,355 acres, is located approximately 10 miles west of the Albion Road substation in Fairfield, Oakland, and Smithfield. This area is predominantly comprised of mixed forests and is largely undeveloped with the exception of several residences located on Horn Hill Road. The topography of the area consists of relatively flat wetland complexes and moderate to steep slopes rising to two prominent hills, Green Hill and Horn Hill. Area 1 would require agreements with multiple landowners. The linear distance to the Albion Road substation is approximately 10 miles and would require major crossings of Interstate 95 (I-95), Kennebec River, and Sebasticook River. Identified Deer Wintering Areas (DWA) and IWWH present siting constraints within the southern half of the area and numerous mapped NWI wetlands and NHD streams are mapped within the area. Moderate project visibility would be anticipated due to the prominent hills. Area 1 was deemed an infeasible alternative due to the large number of landowners, transmission infrastructure constraints, and numerous natural resource constraints.

#### **Alternative Area 2**

Area 2, totaling approximately 1,065 acres, is located approximately 9.3 miles west of the Albion Road substation in Fairfield. The smallest of the five alternative solar array areas, this area is predominantly comprised of mixed forests and is undeveloped. The topography of the area consists of gentle to moderate slopes reaching a high point on Brooks Ridge. Area 2 would only require an agreement with one landowner.

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<sup>4</sup> Scenic resources are defined in Chapter 315 as public natural resources or public lands visited by the general public, in part for the use, observation, enjoyment, and appreciation of natural or cultural visual qualities. The attributes, characteristics, and features of the landscape of a scenic resource provide varying responses from, and varying degrees of benefits to, humans.

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The linear distance to the Albion Road substation is approximately 9.3 miles and would require major crossings of I-95, Kennebec River, and Sebasticook River. Mapped NHD streams, DWA, and IWWH present siting constraints within the northern half of the area. Minimal NWI wetlands are mapped within Area 2. Minimal project visibility would be anticipated due to the relatively flat surrounding topography and existing forested landcover. Area 2 was deemed an infeasible alternative due to transmission infrastructure constraints and insufficient acreage to accommodate the Project while avoiding mapped natural resources.

#### **Alternative Area 3**

Area 3, consisting of three separate blocks totaling approximately 7,286 acres, is located approximately 4.8 miles northwest of the Albion Road substation in Fairfield, Skowhegan, and Clinton. This area is comprised of mixed forests and existing open fields with adjacent developments (e.g., Kennebec Valley Community College Alford Campus, Goodwill Hinckley School). The topography of the area consists of relatively flat agricultural areas and upland forests interspersed with mapped streams (e.g., Martin Stream). Area 3 would require agreements with multiple landowners and property interest was not fully available. The linear distance to the Albion Road substation is approximately 4.8 miles and would require major crossings of I-95, Kennebec River, and Sebasticook River. Identified DWA and NHD streams are mapped within the area. Due to the extent of open fields within Area 3, project visibility would likely be significant. Area 3 was deemed an infeasible alternative due to the large number of landowners, transmission infrastructure constraints, and significant anticipated visual impacts.

#### **Alternative Area 4**

Area 4, totaling approximately 3,081 acres, is located approximately 3.3 miles east of the Albion Road substation in the Unity Twp and Unity. This area is predominantly comprised of softwood forests and large wetland complexes and is undeveloped. The topography of the area consists of gentle slopes with no prominent hills. Area 4 would only require an agreement with one landowner. The linear distance to the Albion Road substation is approximately 3.3 miles and would not require major river or highway crossings. Identified DWA and IWWH present siting constraints for large portions of the area and numerous NWI wetlands are mapped within the area, limiting the buildable area. Due to the relatively flat surrounding topography and forested landcover, project visibility would likely be low. Area 4 was deemed an infeasible alternative due to the significant natural resource constraints.

#### **Alternative Area 5 (Proposed Project Area)**

Area 5, totaling approximately 2,302 acres, is located approximately 3.5 miles to the northeast of the Albion Road substation in Benton, Clinton, and Unity Twp. This area is predominantly comprised of mixed forests managed for timber production and is largely undeveloped, with the exception of several seasonal hunting camps located on outparcels. The topography of the area consists of relatively flat wetland complexes and moderate slopes to low rises. Area 5 would only require an agreement with two landowners. The linear distance to the Albion Road substation is approximately 3.5 miles and would not require major river or highway crossings. Identified DWA and IWWH present siting constraints but are primarily located at the periphery of Area 5 and large upland blocks provide suitable buildable area. Due to the relatively flat surrounding topography and forested landcover, project visibility would likely be low.

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Based on this analysis, the Applicant selected Alternative Area 5 as the alternative that meets the Project purpose and minimizes environmental impacts. Alternative Area 1 was not selected because it included locations for which property interest was not feasible, required multiple large transmission crossings, and had limited buildable area due to mapped NWI wetlands and IWWH. Alternative Area 2 was not selected because it required multiple large transmission crossings and insufficient acreage to accommodate the Project while avoiding mapped natural resources. Alternative Area 3 was not selected because it included locations for which property interest was not feasible, required transmission line crossings of significant natural resources or existing infrastructure, and would potentially have significant visibility due to existing open fields. Alternative Area 4 was not selected because of the anticipated greater environmental impacts associated with mapped NWI wetlands, DWA, and IWWH.

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**Table 2-1. Three Corners Solar Alternative Solar Array Areas Comparison**

<b>Selection Criteria</b>	<b>Alternative Area 1</b>	<b>Alternative Area 2</b>	<b>Alternative Area 3</b>	<b>Alternative Area 4</b>	<b>Alternative Area 5 (Preferred)</b>
Property	High <ul style="list-style-type: none"> <li>• 30+ parcels</li> <li>• 5+ landowners</li> </ul>	Low <ul style="list-style-type: none"> <li>• 9 parcels</li> <li>• 1 landowner</li> </ul>	High <ul style="list-style-type: none"> <li>• 50+ parcels</li> <li>• 20+ landowners</li> </ul>	Low <ul style="list-style-type: none"> <li>• 12 parcels</li> <li>• 2 landowners</li> </ul>	Low <ul style="list-style-type: none"> <li>• 13 parcels</li> <li>• 2 landowners</li> </ul>
Transmission Infrastructure / Distance to POI (linear)	High <ul style="list-style-type: none"> <li>• 10 miles to POI</li> <li>• Kennebec River and Sebasticook River crossing</li> <li>• Required I-95 crossing</li> </ul>	High <ul style="list-style-type: none"> <li>• 9.3 miles to POI</li> <li>• Kennebec River and Sebasticook River crossing</li> <li>• Required I-95 crossing</li> </ul>	High <ul style="list-style-type: none"> <li>• 4.8 miles to POI</li> <li>• Kennebec River and Sebasticook River crossing</li> <li>• Required I-95 crossing</li> </ul>	Low <ul style="list-style-type: none"> <li>• 3.3 miles to POI</li> <li>• Required crossing of Fifteenmile Stream</li> <li>• No interstate or state route crossings</li> </ul>	Low <ul style="list-style-type: none"> <li>• 3.5 miles to POI</li> <li>• Required crossing of Fifteenmile Stream</li> <li>• Route 139 crossing</li> <li>• No interstate crossing</li> </ul>
Natural Resource Constraints	Medium to High <ul style="list-style-type: none"> <li>• Large NWI complexes</li> <li>• Numerous NHD streams</li> <li>• 3 mapped IWWH bisect area</li> <li>• 2 large mapped DWA</li> </ul>	Low to Medium <ul style="list-style-type: none"> <li>• Minimal mapped NWI</li> <li>• Numerous NHD streams</li> <li>• 1 mapped IWWH</li> <li>• 1 small mapped DWA</li> </ul>	Low to Medium <ul style="list-style-type: none"> <li>• Minimal mapped NWI</li> <li>• Numerous NHD streams</li> <li>• 0 mapped IWWH</li> <li>• 3 small mapped DWA</li> </ul>	High <ul style="list-style-type: none"> <li>• Large NWI complexes</li> <li>• Minimal NHD streams</li> <li>• 2 mapped IWWH</li> <li>• 2 large mapped DWA</li> </ul>	Low to Medium <ul style="list-style-type: none"> <li>• NWI complexes at periphery</li> <li>• Minimal NHD streams</li> <li>• 2 mapped IWWH at periphery</li> <li>• 2 large mapped DWA – 1 determined to be low-quality</li> </ul>
Visual Impacts	Medium <ul style="list-style-type: none"> <li>• Moderate anticipated visibility due to prominent rises</li> </ul>	Medium <ul style="list-style-type: none"> <li>• Low to moderate anticipated visibility due to rises</li> </ul>	High <ul style="list-style-type: none"> <li>• Significant anticipated visibility due to existing open fields</li> </ul>	Low <ul style="list-style-type: none"> <li>• Minimal anticipated visibility due to topography and existing forested landcover</li> </ul>	Low <ul style="list-style-type: none"> <li>• Minimal anticipated visibility due to topography and existing forested landcover</li> </ul>

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#### 2.3.2 Genlead Alternatives

##### Genlead Review Criteria

Following selection of the preferred solar array area (Figure 2-1), the Applicant evaluated three site review criteria to identify potential Genlead routes that could connect the Project to the ISO-NE market and that could be reasonably constructed while minimizing environmental and landowner impacts. The review criteria included ROW acquisition, landowner impacts, and environmental impacts. The location of the Genlead was based on an evaluation of multiple alternatives, and the Project route is available, feasible, and minimizes overall environmental impacts. The review criteria are described further below, and each was assigned a qualitative rank based on potential constraints that would block the Project Purpose and Need (Low to High) to compare the potential Genlead routes, summarized in Table 2-2.

##### ROW Acquisition

ROW acquisition refers to the ability to obtain the ROW easements necessary to construct and operate the Project. The Applicant, unlike regulated public utilities, does not have the right of eminent domain and must rely on willing landowners and negotiated agreements to acquire the necessary land interest for any particular route. The specific factors related to this criterion include whether the landowners are willing to convey the necessary land interests and the costs of acquiring such interests. Without entering into negotiations with individual landowners, however, it is difficult to determine whether the necessary land interests can be acquired. It is also difficult to determine the potential costs associated with land acquisitions and the siting conditions the landowner may require. Considerations relevant to this evaluation include the number of parcels, the value of land in the area, and any known information on the willingness of individual landowners to convey the necessary land interests for the particular alternative.

##### Landowner Impacts

Landowner impacts refer to the potential impacts of locating a Genlead adjacent to abutting landowners (e.g., visual impacts). Specific criteria used to evaluate landowner impacts include the number of parcels crossed by the ROW and impacts to landowners in proximity to the ROW (i.e., residences within 200 ft of the ROW).

##### Environmental Impacts

Environmental impacts refer to the presence of and/or proximity to natural and cultural resources. Publicly available data sources were used to identify other potential natural resources in proximity to the alternative corridors. The presence of cultural resources including the presence of recreational trails, preservation lands, tribal lands, and historic structures also were considered when selecting the alternative. These resources provide unique social benefits to landowners and residents of the area.

##### Genlead Site Selection

After evaluating the route selection criteria, the Applicant identified four potential alternatives for siting the Genlead. The initial location of the collection substation was to the east of the proposed collection substation and south of Unity Road. However, each of the Genlead options intersects with the preferred alternative. As such, Genlead Options 1–3 were assessed based on the point at which they diverge from

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Option 4 to allow for a uniform analysis. The preferred Genlead route was ultimately selected due to natural resource avoidance and suitability with the final collection substation location off Bessey Lane.

The four generator lead alternatives identified by the Applicant in Benton (Figure 2-1) are:

- Option 1 – Proceeds approximately 1.7 miles west adjacent to existing CMP line and then south across Unity Road before connecting with the Albion Road substation.
- Option 2 – Assumed collocated with Option 4 but proceeds west at 1.5 miles south of the collection substation. Crossings Hanscom Road and East Benton Road routes around existing residential developments before connecting with the Albion Road substation.
- Option 3 – Assumed collocated with Option 4, but with diverges from Option 4 south of Bog Road and includes different proposed road crossings at East Benton Road and Richards Road.
- Option 4 – Similar to Alternative 3, but greater micrositing of the alignment to avoid natural resources and different proposed road crossings at East Benton Road and Richards Road.

The four Genlead alternatives were reviewed with the goal of identifying the least environmentally damaging practicable alternative. The evaluations are provided below and summarized in summarized in Table 2-2 below, and the alternative routes are depicted on Figure 2-1.

#### ROW Acquisition

Option 1 is located adjacent to existing road or utility corridors for the majority of its distance along Unity Road, which typically facilitates ROW acquisition. However, due to the number of parcels with residential development surrounding portions of the route, the difficulty and cost of ROW acquisition is increased and is infeasible in some locations due to non-participating landowners. Therefore, ROW Acquisition for Option 1 is ranked as high. Option 2 also includes areas of high residential development with multiple parcels; therefore, ROW acquisition is ranked as high. Option 3 is located primarily within commercial timberland, with a relatively low number of landowners. However, because the alignment of Option 3 west of Richards Road did not have full landowner support, ROW acquisition is ranked as medium-high. Option 4 is located primarily within commercial timberland, with a relatively low number of landowners, and ROW acquisition is ranked as medium.

#### Landowner Impacts

Options 1 and 2 are sited within approximately 200 ft of numerous residences located on Unity Road and Hanscom Road. Given the proximity of existing residential development along these corridors, both Options 1 and 2 are ranked medium. Options 3 and 4 are primarily located in sparsely developed areas and road crossings generally avoid residential developments and are therefore ranked low.

#### Environmental Impacts

Options 1 and 3 would be expected to have moderate to high environmental impacts, which is in part the result of their comparatively long lengths within IWWH and mapped NWI wetlands in relation to the other options. Options 2 and 4 would be expected to have moderate environmental impacts due to lengths within IWWH, DWA, and mapped NWI wetlands. Although tree clearing would be required for all options, much



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of this clearing would occur on parcels managed for timber production. Overall, Option 4 presented the lowest potential impacts to IWWH and second lowest collocation with NWI wetlands.

Based on the analysis provided above, the Applicant selected Option 4 as the least environmentally damaging practicable alternative. Options 1, 2, and 3 were eliminated primarily due to the relatively high environmental impacts (Options 1 and 3) and comparatively high landowner impacts (Options 1 and 2).

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**Table 2-2. Three Corners Solar Genlead Options Comparison**

<b>Selection Criteria</b>	<b>Criteria Components</b>	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>	<b>Option 4 (Preferred)</b>
Total Length	Miles	4.3	4.7	5.3	5.2
Difficulty of ROW Acquisition	Qualitative (Low to High)	High	High	Medium-High	Medium
Landowners	Low Impacts to Landowners	No (31 parcels)	No (26 parcels)	Yes (15 parcels)	Yes (18 parcels)
	Segments within ~200 ft of residences	11	10	2	1
	Visual Impacts	Medium	Medium	Low	Low
Visual	Other than residences	Low	Low	Low	Low
Environmental	Natural Resources	<ul style="list-style-type: none"> <li>• 1.2 miles within NWI</li> <li>• 0.8 mile within IWWH</li> <li>• 0.4 mile within DWA</li> <li>• 6 stream crossings</li> <li>• Crossing of 1 named stream</li> </ul>	<ul style="list-style-type: none"> <li>• 0.8 mile within NWI</li> <li>• 0.1 mile within IWWH</li> <li>• 0.2 mile within DWA</li> <li>• 9 stream crossings</li> <li>• Crossing of 1 named stream</li> </ul>	<ul style="list-style-type: none"> <li>• 1.4 miles within NWI</li> <li>• 0.1 mile within IWWH</li> <li>• 0.2 mile within DWA</li> <li>• 9 stream crossings</li> <li>• Crossing of 1 named stream</li> </ul>	<ul style="list-style-type: none"> <li>• 1.0 mile within NWI</li> <li>• 0.1 mile within IWWH</li> <li>• 0.2 mile within DWA</li> <li>• 10 stream crossings</li> <li>• Crossing of 1 named stream</li> </ul>

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#### 2.3.3 No Action Alternative

The “no-action / no-build” alternative refers to not building the Project, which would mean the proposed Project area would not experience the changes associated with the development of a solar energy facility and Genlead, and the area would persist in its current state, as parcels consisting of forested land. Additionally, Maine and the region would miss an opportunity for creation of a substantial new source of clean energy and the economic benefits associated with both the construction and ongoing maintenance of such a project. Lastly, the Towns of Benton and Clinton and Kennebec County would miss out on a substantial, long-term source of incremental tax revenue, expected to last at least 30 years. Additionally, the “no action” alternative would not displace emissions of pollutants from other power sources as detailed above in Section 2.2.

By comparison, the “no action” alternative would avoid the limited potential short-term construction impacts and long-term clearing impacts but would not create the Project’s identified long-term benefits and would not aid in Maine’s transition to renewable energy and away from air polluting fossil fuel generation. Given the wide array of environmental impacts anticipated from climate change, including the anticipated extinction of many species of birds and other wildlife<sup>5</sup>, the environmental benefits anticipated from the proposed Project will outweigh the impacts.

## 2.4 AVOIDANCE AND MINIMIZATION EFFORTS

Due to various constraints, the Project cannot be wholly located within upland portions of the properties, while also meeting the contractual requirements for solar energy generation capacity. Primary site constraints include:

- Large wetland complexes to surrounding the proposed arrays;
- Several smaller wetlands to the west of the proposed arrays, as well as between the arrays;
- SVPs adjacent to the western and central arrays and along the Genlead;
- Outparcels internal to the western array area;
- IWWH to the west and east of the central array and west of the Genlead;
- DWAs located with the array area and adjacent to the Genlead; and
- Landowner constraints on the Genlead alignment.

Furthermore, a key component of a solar energy generation facility is access to direct sunlight. To achieve energy generation requirements, panels cannot be obscured or shaded by vegetation. The Project’s solar arrays will require a cleared buffer on all sides of the arrays to prevent vegetation from shading the panels. As a result of these constraints, it is not possible to design the Project to achieve a rated capacity of 110 MWac without wetland impacts.

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<sup>5</sup> National Audubon Society. 2021. Audubon’s Survival by Degrees – 389 Species on the Brink. Available at: <https://www.audubon.org/climate/survivalbydegrees>. Accessed September 9, 2021.

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The Project layout (see Attachments 5-1 and 5-2) was developed in consideration of the factors described above. Various configurations of solar arrays and associated equipment were evaluated with the goal of identifying a layout that meets the Project purpose with the least environmental impact. Avoidance and minimization efforts included:

- Using existing logging road corridors for Project access roads to reduce the amount of disturbance required and minimize overall Project impacts;
- Installing the Collector underground within or adjacent to the footprint of Project access roads;
- Utilizing jack and bore crossing methodology for an underground Collector crossing of wetland W-MR-01;
- Installing the Project access road and Collector to the westernmost array through a narrow portion of the wetland to minimize wetland impacts associated with the crossing;
- Fencing the array areas separately to avoid additional clearing impacts in wetlands and to provide corridors for wildlife movement through the Project area;
- Avoiding ground disturbance to significant vernal pool depressions and minimizing vegetation clearing in the critical terrestrial habitat (CTH) within 250 ft of the eight SVPs and five potentially significant vernal pools (PSVP). A minimum of 75% of the CTH for SVPs and PSVPs will be maintained in its current state. Impacts to SVP CTH are further detailed in Section 2.6.2.
- Minimizing the impacts associated with the proposed Genlead span of SVP SAD-VP-3. Impacts to the SVP will be minimized through the use of significantly taller poles on either side of the SVP and associated CTH buffer. By significantly increasing the pole heights, the SVP and associated habitats will remain intact, with only select tree cutting and tree topping. Complete avoidance of the SVP depression was not feasible due to landowner restrictions on the Genlead alignment at this location.
- Adjusting the Genlead alignment to further avoid mapped IWWH and implementing seasonal timing restrictions on construction activities to avoid the sensitive nesting period.
- Utilizing existing logging road corridors for proposed array area access roads within DWA and consolidating the array layout to avoid use of several areas within this DWA (DWA ID 021043), totaling over 18 acres, that were included in the Project's 2019 zoning application to the Land Use Planning Commission.
- Adjusting the Genlead alignment to avoid DWA to the extent practicable. As designed, the Genlead ROW impacts a total of 5.2 acres along the periphery of DWA. This represents only 0.4% of the total area of this DWA (DWA ID 020322). Additionally, the Applicant has will practice restrictive vegetation management practices (i.e., maintaining scrub-shrub vegetation and selective cutting to favor softwood species) to preserve cover to the extent practicable. These vegetation maintenance practices are further detailed in Exhibit 10-1 (Section 10.0) of the Site Law permit application.
- Wetland clearing practices that minimize soil disturbance outside of Project grading limits (e.g., no vegetative grubbing in wetlands, clearing during dry or frozen ground conditions).

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- Vegetated buffers and vegetation maintenance timing restrictions detailed in Section 10.0 (Exhibit 10-1) of the Site Law permit application.

## **2.5 PROJECT IMPACTS**

Based on the information gathered from the surveys identified above, the Project layout and footprint was designed to optimize engineering and solar resource conditions while avoiding and/or minimizing environmental impacts. Environmental resource impacts as a result of construction and operation of the Project are summarized in Table 2-3. Approximately 18.63 acres of indirect wetland impacts are proposed as a result of vegetation clearing in wetlands, and approximately 0.53 acres of direct wetland impacts are proposed as a result of fill or grading in wetlands, thereby requiring a permit from the MDEP pursuant to the NRPA. To address the proposed impacts, this Individual NRPA permit application has been completed for the Project.

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**ATTACHMENT 2. ALTERNATIVES ANALYSIS****Table 2-3. Summary of Potential Environmental Impacts Resulting from the Project**

Environmental Resource	Estimated or Potential Impact
Vegetation and Habitat	The Project area is dominated by regenerating forests, upland and wetland forests, and small areas of agricultural land. One state listed rare plant species was identified outside of the Project area during botanical surveys. No federally listed rare, threatened, or endangered plant species were identified by USFWS or during field surveys (see Section 9.0 of the Site Law permit application).
Wetlands	Direct wetland impacts associated with grading to install the solar arrays and the access road wetland crossings will be approximately 0.53 acres. Indirect wetland impacts associated with vegetation clearing in wetlands to prevent trees from shading panels and for overhead Collector and Genlead ROWs will be approximately 18.63 acres. No grubbing will be conducted within wetlands where only vegetation clearing is proposed, and measures to minimize soil disturbance will be implemented (e.g., clearing during dry or winter conditions).
Vernal Pools	There are eight SVPs and five PSVPs within the Project area. Vegetation clearing, PV panels, and/or access roads are proposed in the CTH within 250 ft of seven SVPs. Vegetation clearing for the Genlead ROW is proposed in the CTH within 250 ft of one SVP and five PSVPs. Proposed development (e.g., PV panels, clearing) will not exceed 25% of the CTH within a 250-foot radius of the vernal pool depressions. Impacts to vernal pool CTH.
IWWH	The Genlead crosses the edge of one IWWH (IWWH ID 204095) south of Route 139 (Attachment 5-2, Sheet 5). The Project limits of disturbance intersect with 1.1 acres of the mapped IWWH, which includes 0.45 acres that are associated with temporary edge clearing along an existing logging road. Clearing for the Genlead ROW totals approximately 0.66 acres within that total there will be 0.03 acres of forested wetland clearing.
DWA	Project development and clearing are proposed within approximately 69.9 acres of field determined moderate-quality DWA (DWA IDs 020322 and 021043). The Applicant is currently consulting with MDIFW to determine appropriate mitigation for impacts to moderate-quality DWA.
Waterbodies	Four temporary access road stream crossings (i.e., temporary timber mat bridge spans) spanning the full width of delineated streams are proposed for access to and along the Genlead. The Genlead ROW will cross seven streams. Limited clearing (e.g., maintaining a scrub-shrub stream buffer) is anticipated for construction of Genlead ROW stream crossings.
Bats	The Project will require approximately 906 acres of tree clearing. The Project has been designed to minimize tree removal to the extent possible. Tree clearing will occur within the footprint of the solar arrays and access roads and where necessary to prevent trees from shading panels. Clearing is anticipated to occur from late summer 2022 to early winter 2023. No adverse impacts to listed bats are expected due to the lack of known hibernacula or maternity roost trees within the vicinity and the absence of other bat overwintering habitat (e.g., talus slopes, exposed rock faces).

### Three Corners Solar Project

MDEP Natural Resources Protection Act Permit Application

#### ATTACHMENT 2. ALTERNATIVES ANALYSIS

### 2.5.1 Wetland Impacts

Thirty wetlands are anticipated to be impacted by Project construction resulting in approximately 18.63 acres of proposed indirect wetland impacts from vegetation clearing in wetlands, and approximately 0.53 acres of proposed direct wetland impacts from fill or grading. Proposed wetland impacts include direct and indirect impacts in 17 Wetland of Special Significance (WOSS). Impacts proposed in WOSS are associated with Project access road crossings or overhead Collector and Genlead ROW clearing. Wetland impacts for the solar array areas and Genlead are summarized in Tables 2-4 and 2-5, respectively. The locations of grading and vegetation cutting in wetlands proposed for the Project are shown on the civil site plans (Attachments 5-1 and 5-2). After initial clearing, areas of forested wetlands outside the fence line will be maintained as scrub-shrub wetlands. Further discussion of vegetation maintenance and resource buffers is provided in Section 10.0 of the Project's Site Law permit application.

**Table 2-4. Summary of Wetland Impacts, Solar Array Areas**

Wetland ID	WOSS <sup>1</sup>	Wetland Type <sup>2</sup>	Project Component	Direct Impact from Fill / Grading (square feet [sf])	Indirect Impact Vegetation Clearing (sf) <sup>3</sup>	Temporary Construction Mats (sf) <sup>4</sup>
W-CF-11	No	PFO	Shade Clearing	0	24,006	0
W-CF-14	No	PFO	Shade Clearing	0	890	0
W-NS-10	No	PFO	Shade Clearing	0	37,911	0
W-NS-11	No	PFO	Shade Clearing	0	31,593	0
W-NS-16	No	PFO	Shade Clearing	0	31,462	0
W-CF-07	No	PFO	Array Grading	4,189	0	0
W-MR-27	No	PFO	Array Grading	1,911	0	0
W-MR-01	Yes	PFO	Access Road Fill/Grading/Clearing, Collector Trenching, ROW Clearing, Pole	16,917	32,352	1,442
W-SK-05	Yes	PFO	Pole, ROW Clearing	7	31,437	1,540
W-NS-01	No	PFO	ROW Clearing	0	1,458	70
<b>Totals (sf)</b>				<b>23,024</b>	<b>191,109</b>	<b>3,052</b>
<b>Totals (acres)</b>				<b>0.53</b>	<b>4.39</b>	<b>0.07</b>

<sup>1</sup> Wetlands containing SVPs, SWH, or more than 20,000 sf of emergent marsh are considered WOSS.

<sup>2</sup> Wetland type based on Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. PFO = Palustrine Forested Wetland. Wetland type is based on the existing conditions within the proposed impact area.

<sup>3</sup> No stumping or grubbing is proposed and cleared areas will be allowed to revert to scrub-shrub wetlands following initial clearing.

<sup>4</sup> Temporary construction mat impacts occur within proposed wetland clearing limits. It is the Applicant's understanding that temporary construction mats are not considered a jurisdictional impact by the MDEP.

**Three Corners Solar Project**

MDEP Natural Resources Protection Act Permit Application

**ATTACHMENT 2. ALTERNATIVES ANALYSIS**

**Table 2-5. Summary of Wetland Impacts, Genlead**

Wetland ID	WOSS <sup>1</sup>	Wetland Type <sup>2</sup>	Direct Impact Poles (sf)	Indirect Impact Vegetation Clearing (sf) <sup>3</sup>	Temporary Construction Mats (sf) <sup>4</sup>
W07	No	PFO	0	2,941	566
W09	Yes, in part	PFO/PSS/PEM	35	215,001	3,859
W14	No	PSS	0	6,159	6,142
W15	No	PFO	0	7,754	1,133
W16	Yes, in part	PFO	0	6,794	1,002
W22	No	PFO	0	25,759	3,703
W27	Yes, in part	PSS/PFO	0	17,119	566
W28	No	PFO	7	56,846	12,197
W32	Yes	PFO	0	45,851	4,835
W35	Yes	PFO	0	13,669	0
W36	Yes, in part	PFO	0	32,921	6,447
W42	Yes	PFO	0	13,246	1,133
W43	Yes	PFO/PSS	0	40,405	5,750
W50	Yes	PFO	0	3,314	0
W51	Yes	PFO	0	65,283	6,273
W52	Yes	PFO	0	7,591	0
W56	Yes	PFO	0	15,086	0
W57	Yes	PFO	0	115	0
W58	Yes	PFO	0	14,200	1,699
W59	Yes	PFO	0	30,079	2,222
<b>Totals (sf)</b>			<b>42</b>	<b>620,133</b>	<b>57,525</b>
<b>Totals (acres)</b>			<b>0.001</b>	<b>14.24</b>	<b>1.32</b>

<sup>1</sup> Portions of wetlands within 25 ft of delineated streams that meet NRPA definitions are considered WOSS. Wetlands containing SVPs, SWH, or more than 20,000 sf of emergent marsh are considered WOSS.

<sup>2</sup> Wetland type based on Cowardin Classification System (Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States). PFO = Palustrine Forested Wetland; PSS = Palustrine Scrub Shrub Wetland; PEM = Palustrine Emergent Wetland. Wetland type is based on the existing conditions within the proposed impact area.

<sup>3</sup> No stumping or grubbing is proposed and cleared areas will be allowed to revert to scrub-shrub wetlands following initial clearing.

<sup>4</sup> Temporary construction mat impacts occur within proposed clearing limits in PFO or PSS wetlands. It is the Applicants understanding that temporary construction mats are not considered a jurisdictional impact by the MDEP.

**2.5.2 Impacts to Streams**

As detailed above, no temporary or permanent in-stream impacts are anticipated as a result of the Project. No streams occur within the Project solar array areas, including the collection substation and O&M building. Four temporary access road stream crossings (streams S01, S02, S05, and S06) utilizing temporary timber mat bridges to span the full width of delineated streams are proposed for access to or along the Genlead. The Genlead ROW will span seven streams – streams S01, S02, S05, S07, S08, S09, and S11. Limited clearing (e.g., maintaining a minimum 25-ft-wide scrub-shrub stream buffer) is anticipated for construction of Genlead ROW stream crossings.



## **Three Corners Solar Project**

MDEP Natural Resources Protection Act Permit Application

### **ATTACHMENT 2. ALTERNATIVES ANALYSIS**

#### **2.5.3 Impacts to Significant Wildlife Habitat**

Proposed impacts to SWH, as defined by the NRPA, include Project development or clearing within mapped IWWH, and the 250-ft CTH of SVPs/PSVPs and are detailed below.

##### **Significant Vernal Pools**

The Project was designed to avoid impacts to SVP and PSVP depressions, and proposed CTH disturbance within 250 ft of SVPs and PSVPs was avoided and minimized to the greatest extent practicable while considering the other constraints on the Project site. Project development and/or clearing is proposed within the 250-ft CTH of eight SVPs and five PSVPs (Table 2-6). The proposed development (i.e., vegetation clearing, access roads, or PV arrays) in CTH within 250 ft of the SVPs/PSVPs depressions will not exceed 25% of the CTH, resulting in more than 75% of undeveloped CTH for the SVPs/PSVPs maintained in its current state following Project construction. Project vernal pool data have been submitted to MDIFW and the Applicant will continue to consult with MDIFW regarding vernal pools. Nine vernal pools that are not regulated by the MDEP as they do not meet MDEP criteria for significance are located with the Project area. Fill or grading impacts are anticipated to five of the non-significant vernal pools, none of which are located within delineated wetlands. Impacts associated with vegetation clearing, without stumping or grubbing, are anticipated in the other four non-significant vernal pools located within delineated wetlands. Impacts to SVPs and PSVPs are further detail in below.

The Genlead will cross over one SVP depression (SAD-VP-3) (Attachment 5-2, Sheet 2). Complete avoidance of the SVP depression was not feasible due to landowner restrictions on the Genlead alignment at this location. However, impacts to this SVP will be minimized by using significantly taller poles to either side of the SVP and associated CTH buffer. By significantly increasing the pole heights, the SVP and associated habitats will remain intact, with only select tree cutting and tree topping occurring within a 75 ft buffer of the SVP depression. Tree clearing will taper out to the full 100-ft ROW width from this 75-ft setback to further preserve CTH.

### Three Corners Solar Project

MDEP Natural Resources Protection Act Permit Application

### ATTACHMENT 2. ALTERNATIVES ANALYSIS

**Table 2-6. Summary of SVP and PSVP CTH Impacts**

Project Area	SVP / PSVP ID <sup>1</sup>	Origin	Project Activities	CTH Impact Area (sf)	Percent of Total CTH Impacted
Solar Array Area	SAD-VP-116	Natural	Clearing, Perimeter Fence, Arrays	44,020	18.2%
	SAD-VP-103	Natural	Clearing, Access Road	13,881	4.6%
	SAD-VP-106	Natural-modified	Clearing, Perimeter Fence, Arrays	65,533	21.9%
	SAD-VP-9 / SAD-VP-10	Natural	Clearing, Perimeter Fence, Arrays	74,868	18.1%
	SAD-VP-7 / SAD-VP-8	Natural (SAD-VP-7) / Natural-modified (SAD-VP-8)	Clearing, Perimeter Fence, Arrays, Access Road	140,257	23.4%
Genlead	SAD-VP-3 / PSVP11	Natural	Clearing, Temporary Access Road	37,744	6.7%
	PSVP03	Natural	Clearing, Pole	41,677	13.3%
	PSVP06	Natural	Clearing, Pole	35,593	14.6%
	PSVP07	Natural	Clearing, Temporary Access Road	8,773	3.6%
	PSVP09	Natural-modified	Clearing, Pole	45,532	19.4%

<sup>1</sup> Where impacts occur to adjacent SVP/PSVP buffers, the combined SVP/PSVP buffer was used to calculate the percentage of CTH impacted.

### Inland Waterfowl and Wading Bird Habitat

The Genlead will cross the edge of one IWWH (IWWH ID 204095) south of Route 139 (Attachment 5-2, Sheet 5). The Project limits of disturbance coincides with 1.1 acres of this mapped IWWH, representing only 1.2% of the total area of the IWWH. This includes 0.45 acres associated with an existing logging road. Forested wetland clearing within the IWWH totals approximately 0.03 acres. Proposed clearing and construction along this portion of the Genlead are anticipated to occur during winter 2022/2023, outside the sensitive nesting period (April 1 to August 15). Additionally, operations and maintenance activities will not occur within the IWWH during the sensitive nesting period. Genlead ROW clearing will include retaining or topping existing dead or dying trees of capable species to provide nesting habitat (snags) for waterfowl, provided the snags do not present a safety hazard for operation of the line. Due to the small impact area, clearing practices, and adherence to timing restrictions, the Applicant does not anticipate undue adverse effects on IWWH as a result of the Project.

### Deer Wintering Areas

The DWAs that intersect the Project area are mapped as indeterminate and, therefore, are not considered SWH under the NRPA.<sup>6</sup> Although the DWAs are not SWH, the Project siting avoided and minimized impacts to the DWAs to the extent practicable, as well as other resources regulated under the NRPA. Therefore, the impacts to DWAs are included here for context. The Applicant has been consulting with MDIFW regarding Project associated impacts to mapped DWAs since 2018. The Project area coincides with

<sup>6</sup> Per the NRPA (38 M.R.S.A. §480-B.10), only high and moderate value DWAs and travel corridors as defined by the MDIFW are considered SWH.

### **Three Corners Solar Project**

MDEP Natural Resources Protection Act Permit Application

#### **ATTACHMENT 2. ALTERNATIVES ANALYSIS**

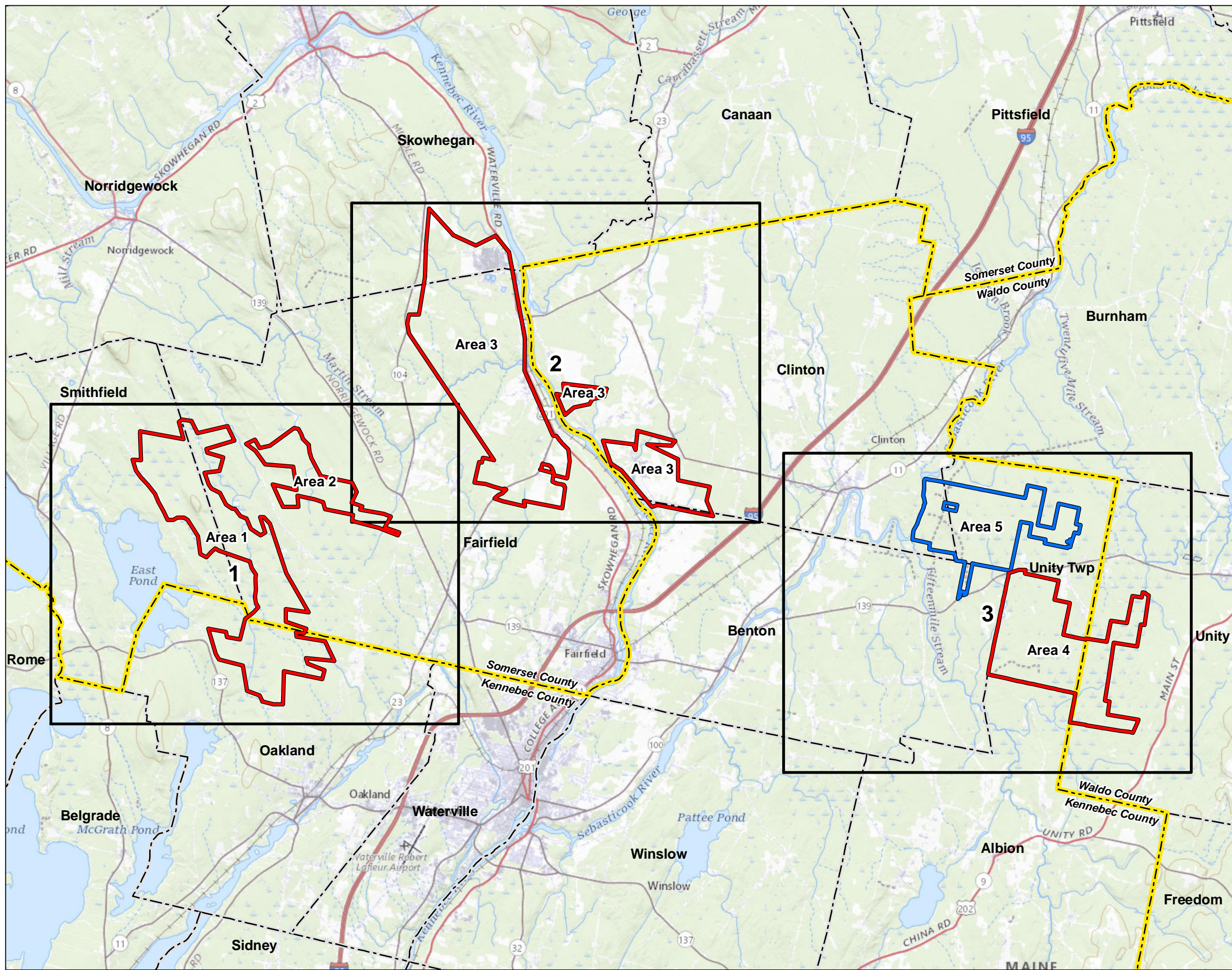
approximately 159 acres of mapped DWA. Based on site visits with MDIFW (see Exhibit 7-2), MDIFW determined that suitable cover to provide winter shelter for deer is lacking from approximately 89.1 acres of DWA area occurring within the array area near Bessey Lane (DWA ID 020323). Due to various constraints, the Project cannot be wholly located outside of mapped DWA that, based on site visits, provide suitable cover (DWA IDs 021043 and 020322), while also meeting the contractual requirements for solar energy generation capacity. Primary site constraints to avoidance of these DWAs include:

- Large WOSS complexes surrounding the proposed arrays;
- SVPs adjacent to the western and central arrays, adjacent to the Collector, and along the Genlead; and
- IWWH to the west and east of the central array and west of the Genlead.

The Applicant has minimized impacts to the DWA collocated with the array areas through an iterative design process. This includes the use of existing logging roads for proposed array area access roads within DWA and consolidating the array layout to avoid use of several areas within the DWA, totaling over 18 acres, that were included in the Project's 2019 zoning application to the Land Use Planning Commission (LUPC). Additionally, the Genlead alignment is designed to avoid DWA to the extent practicable. The Genlead ROW impacts a total of 5.2 acres along the periphery of DWA. This represents only 0.4% of the total area of this DWA (DWA ID 020322). Additionally, the Applicant will institute restrictive vegetation maintenance practices (i.e., maintaining scrub-shrub vegetation and selective cutting to favor softwood species) to preserve cover. These vegetation maintenance practices are further detailed in Exhibit 10-1 (Section 10.0). The Applicant is currently consulting with MDIFW to determine appropriate mitigation for Project related impacts to field determined moderate-quality DWA (DWA IDs 020322 and 021043), which totals approximately 69.9 acres.

**Figure 2-1**  
Alternatives Analysis Mapping

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**Legend**

- Alternative Analysis Sheet Index
- Prospective Solar Array Area
- Preferred Solar Array
- Municipal Boundary
- County Boundary



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**Notes**

1. Coordinate System: NAD 1983 UTM Zone 19N
2. Background: The USGS National Map



**Project Location**  
Benton, Clinton, Unity Twp, Maine

Prepared by GC on 2022-01-20  
Reviewed by EB on 2022-01-21

**Client/Project**  
Three Corners Solar Project

195601453

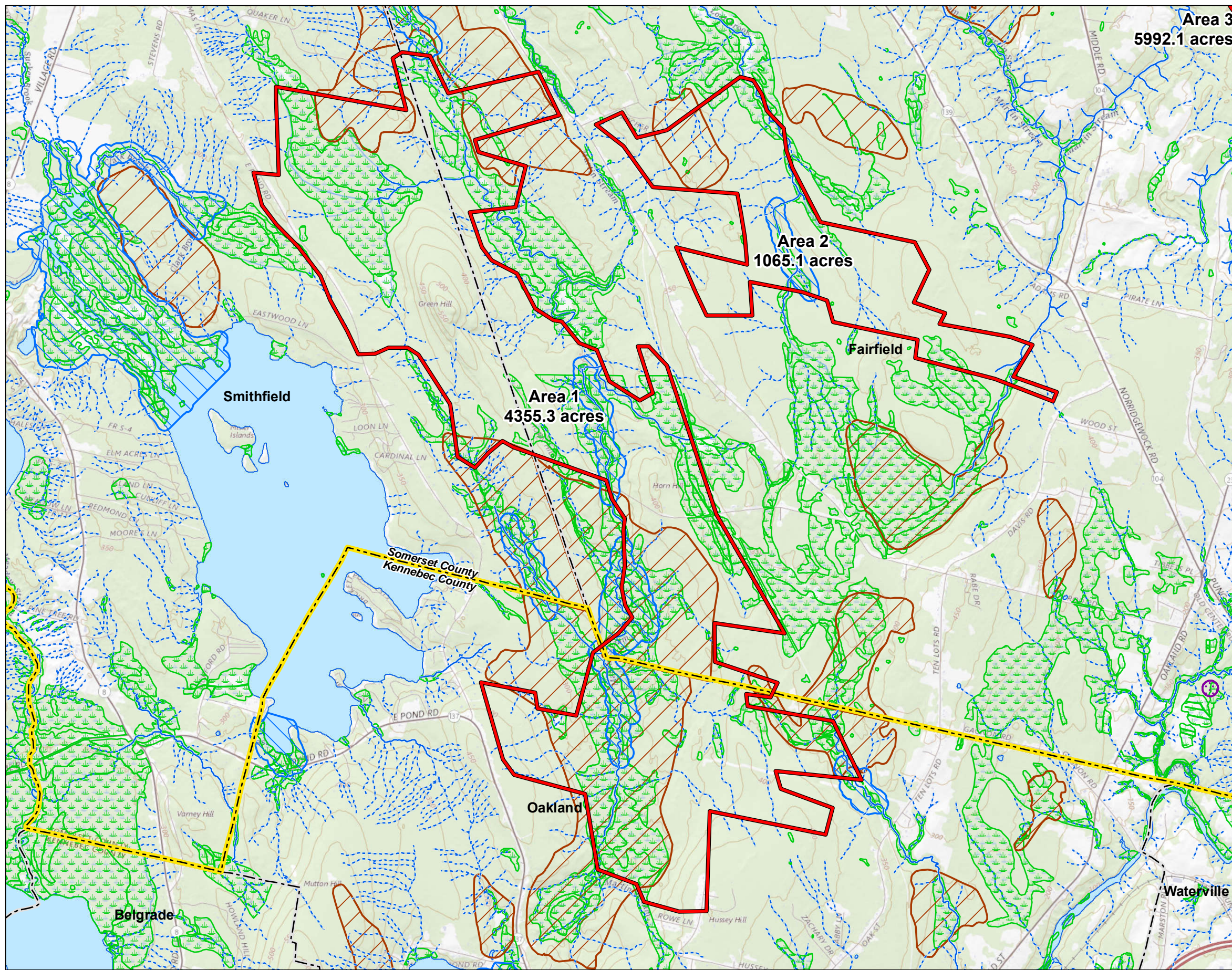
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**2-1**

**Title**

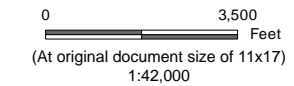
**Alternative Analysis Sheet Index**

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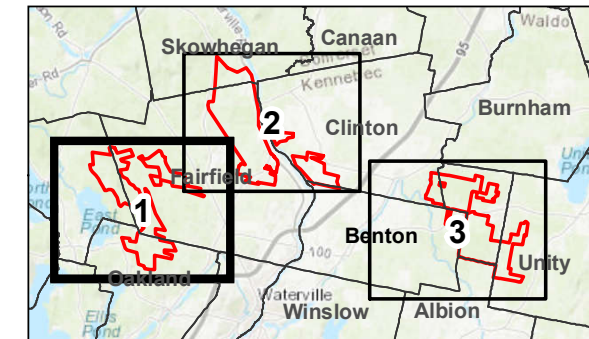


**Legend**

- Prospective Solar Array Area
- National Hydrography Dataset (NHD) Stream
  - Perennial Stream
  - Intermittent Stream
- NHD River/Waterbody
- Significant Vernal Pool 250' Habitat Zone
- Deer Winter Area
- Inland Waterfowl and Wading Bird Habitat
- NWI Wetland
- County Boundary
- Municipal Boundary



- Notes**
1. Coordinate System: NAD 1983 UTM Zone 19N
  2. Sources: MEI, USFWS, MEGIS
  3. Background: The USGS National Map



**Project Location**  
Benton, Clinton, Unity Twp, Maine

Prepared by GC on 2022-01-11  
Reviewed by EB on 2022-01-12

**Client/Project**  
Three Corners Solar Project

195601453

**Figure No.**  
**2-1**

**Title**  
**Alternative Analysis – Solar Array Area**  
**Sheet 1 of 3**

**Legend**

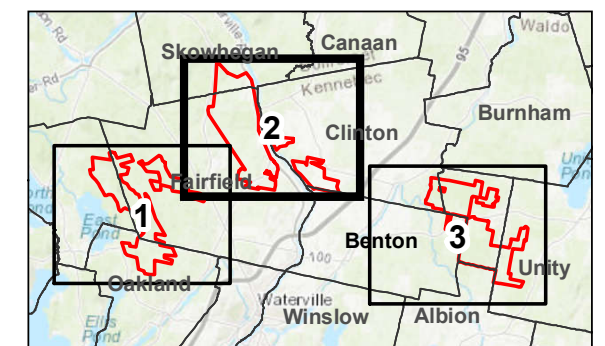
- Prospective Solar Array Area
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**Notes**

1. Coordinate System: NAD 1983 UTM Zone 19N
2. Sources: MEIFW, USFWS, MEGIS
3. Background: The USGS National Map



**Project Location**  
 Benton, Clinton, Unity Twp, Maine

Prepared by GC on 2022-01-11  
 Reviewed by EB on 2022-01-12

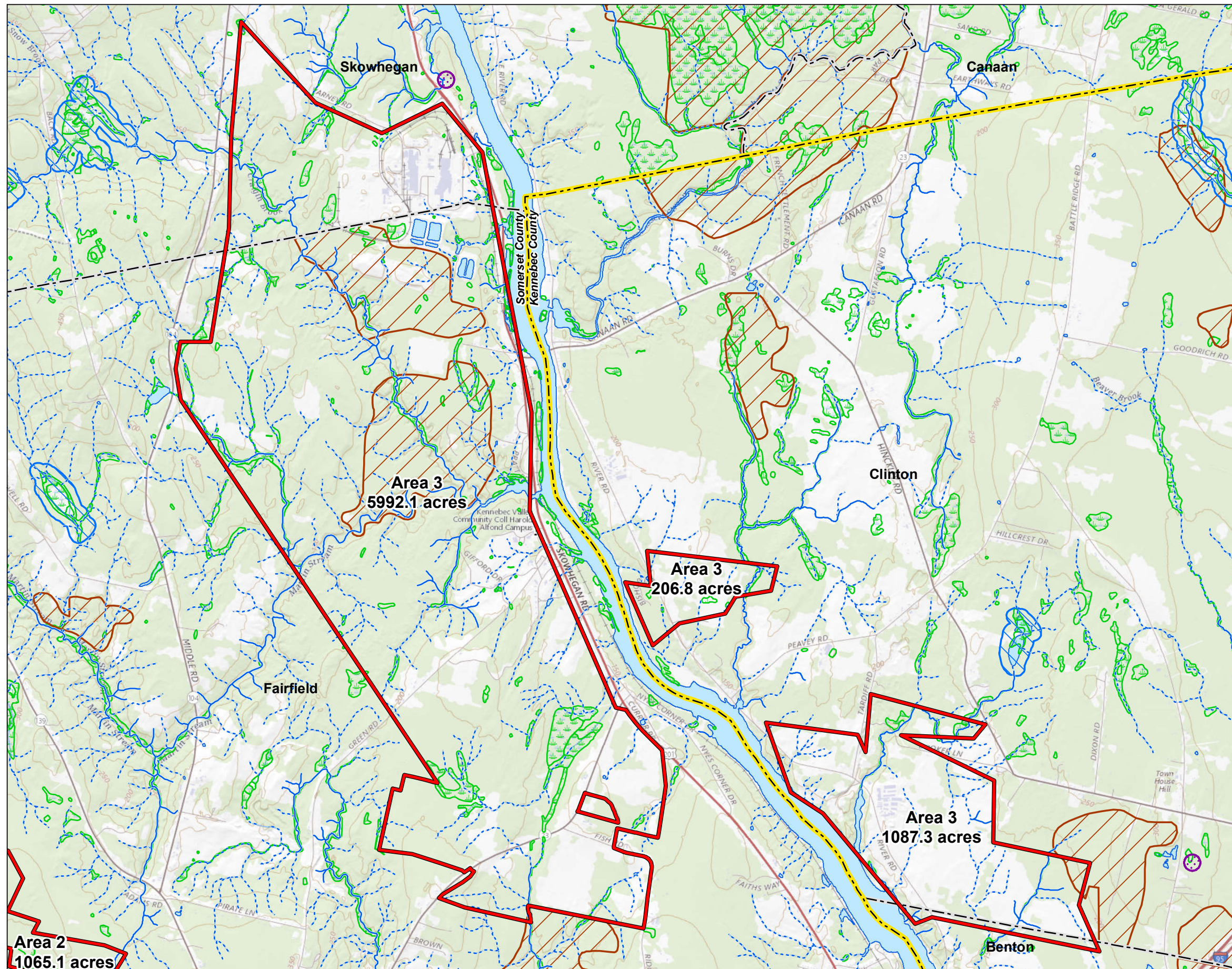
**Client/Project**  
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195601453

**Figure No.**

**2-1**

**Title**  
**Alternative Analysis – Solar Array Area**  
**Sheet 2 of 3**



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**Legend**

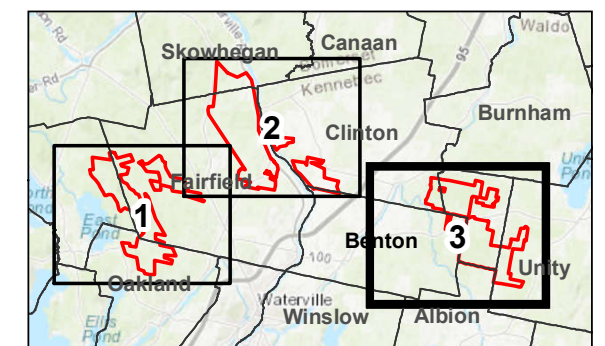
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- Prospective Generator Lead Route
- Preferred Generator Lead Route
- Preferred Collector Route
- Prospective Solar Array Area
- Preferred Solar Array Area
- National Hydrography Dataset (NHD) Stream
  - Perennial Stream
  - Intermittent Stream
- NHD River/Waterbody
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 (At original document size of 11x17)  
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**Notes**

1. Coordinate System: NAD 1983 UTM Zone 19N
2. Sources: MEIFW, USFWS, MEGIS
3. Background: The USGS National Map



**Project Location**  
 Benton, Clinton, Unity Twp, Maine

Prepared by GC on 2022-01-11  
 Reviewed by EB on 2022-01-12

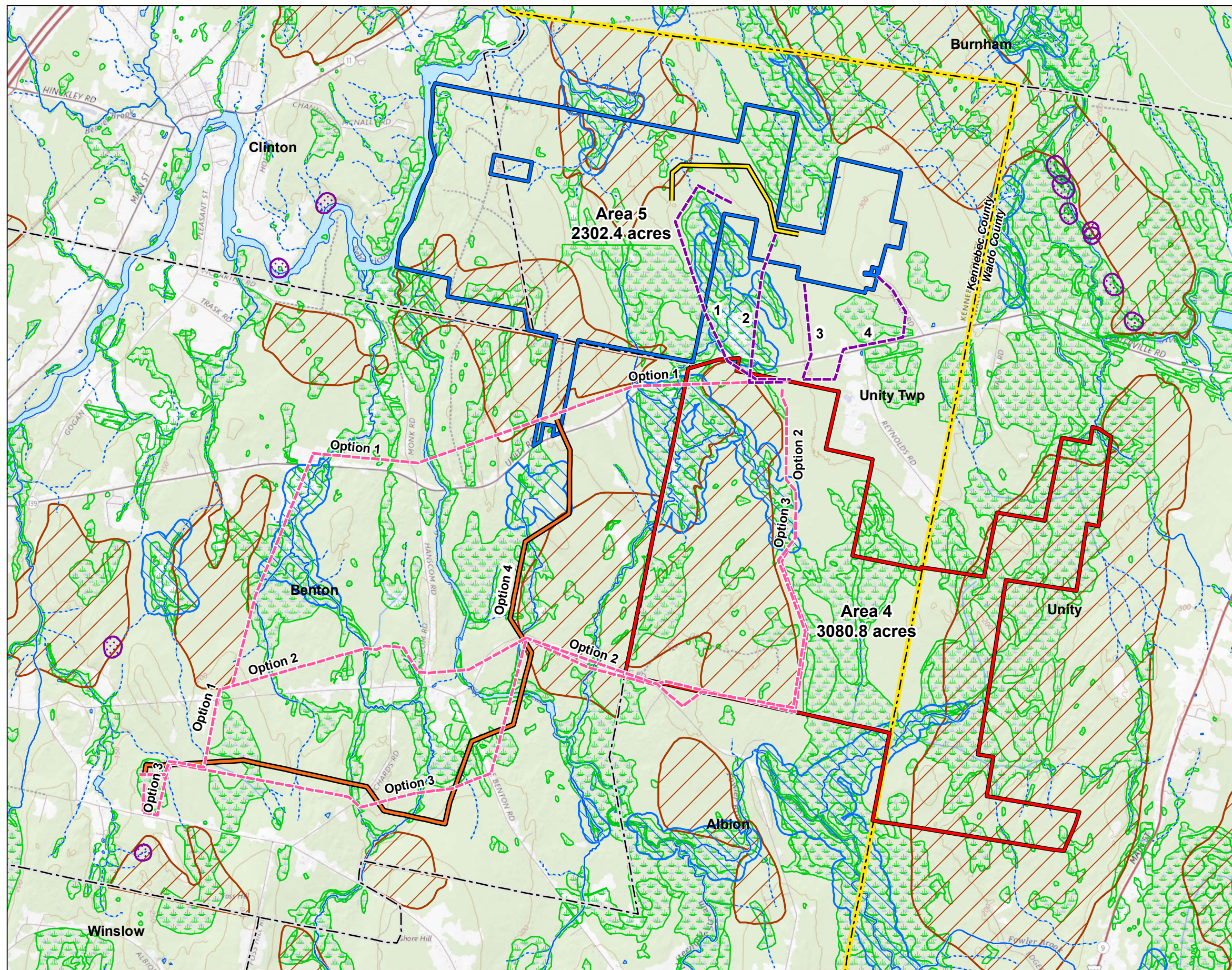
**Client/Project**  
 Three Corners Solar Project

195601453

**Figure No.**

2-1

**Title**  
 Alternative Analysis – Solar Array Area  
 Sheet 3 of 3



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## **Attachment 2-1**

### Deer Wintering Area Site Visits Correspondence

**From:** [Kemper, Keel](#)  
**To:** [Steve Knapp](#); [Deron Lawrence](#)  
**Cc:** [edbthree](#); [Ethan Bessey](#)  
**Subject:** RE: DWA winter visit  
**Date:** Thursday, February 07, 2019 9:00:51 AM  
**Attachments:** [image001.jpg](#)

---

Steve as usual you have done a job of encapsulating the essence of our site visit. To summarize, the law requires you to avoid and minimize as best you can. That is the primary reason that the southern alignment that avoids the DWA all together is preferable, the applicant demonstrates avoidance of protected natural resources. In the north we have two areas. One area is not as critical because the cover type is not appropriate and thus the impacts would be occurring in an area that is not functioning as DWA. The most northern area will be the most problematic. The development in this area will have impacts to the DWA that has appropriate cover type and is likely functioning as a DWA. Deer trails were readily observed in that area during this most recent site visit. So there will be some DWA impacts in one area that will likely have to be mitigated or compensated. One might consider a package of mitigation options to include some amount of preservation of existing DWA with a management plan, in-lieu fee. Let me know if I may be of assistance.

Keel

**G. Keel Kemper**  
**Regional Wildlife Biologist**  
270 Lyons Road  
Sidney, ME 04330  
207-287-5369

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**From:** Steve Knapp [mailto:Steve.Knapp@KleinschmidtGroup.com]  
**Sent:** Wednesday, February 06, 2019 4:30 PM  
**To:** Deron Lawrence <deron.lawrence@longroadenergy.com>  
**Cc:** Kemper, Keel <Keel.Kemper@maine.gov>; edbthree <edb3@edbessey.com>; Ethan Bessey <ethan@besseylumber.com>  
**Subject:** DWA winter visit

**EXTERNAL: This email originated from outside of the State of Maine Mail System. Do not click links or open attachments unless you recognize the sender and know the content is safe.**  
Afternoon Deron,

Yesterday's visit went well. Weather was excellent for February!

Keel, please feel free to jump in with any additional information (or if I have misrepresented anything from our conversations). I will start from the North-East DWA and work south.

The northern most DWA is likely moderate DWA. Based on the discussion with Keel this area is not a "no build" zone given that we are trying to avoid wetland impacts and keep the panels in uplands. However, rather than spend the money to conduct a study confirming the DWA is moderate we should assume it is. Given that, it is likely that the DEP will require some level of compensation for this impact, that being said it may be worth looking into areas of preservation that could be identified in the township (but still harvested within the constraints of a management plan).

The center DWA (near the existing T-line and Bessey Lane) is not an issue. This area is dominated by beech and maple, and is not functioning as a DWA.

The southern section (where the ROW is currently located adjacent to the DWA). After walking the existing ROW, both Keel and I think that if the wetland impacts are less in the existing alignment it might be best to continue to avoid the DWA. From DEP's perspective this would fall into their avoidance/minimization approach. I think the initial idea was to avoid potential wetland impacts on the ROW, but from the section we walked the existing alignment crosses through a fair bit of upland area. That being said, if the wetland delineations identify significant wetlands (or lots of vernal pools) we can move the alignment into the DWA with input from Keel.

The important thing to note is that the Keel feels the project is moving in the right direction, in which we are looking at avoiding as many impacts as we can while still keeping the project viable. Keel also passed along his thanks for the early/often pre app visits which have allowed his guidance/input on the approach.

Best-  
Steve  
**Steve Knapp, PWS**  
**Project Scientist**  
**Ecological Services**



Office: 207.416.1233

Cell: 207.570.9462

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