

### **3.11 Visual Resources, Light And Glare**

#### **3.11.1 Existing Environment**

The proposed Cogeneration Project (proposed Project) will be constructed in a rural area of northwestern Whatcom County that is adjacent to the BP Cherry Point Refinery. The site is currently zoned Heavy Impact Industrial. Some areas of wetlands exist, including areas that were cleared for agricultural activities 50 to 80 years ago, but are no longer farmed. The Project site is located near the Strait of Georgia, which provides deep water access to the shoreline. Whatcom County has designated a 6,500 acre area at Cherry Point, including the Project site, as a Major Industrial Urban Growth Area/Port Industrial Zone (Whatcom County Comprehensive Plan issued May 20, 1997).

Even though the entire project area is zoned Heavy Impact Industrial, the area still maintains a rural character. The BP West Coast Products LLC (BP) Refinery, for example, has forested and grassland buffer zones separating the refinery from Grandview road, the most heavily traveled road near the Project site. Other anthropogenic features include rural roads, railroads, transmission lines, and pipeline rights-of-ways.

The Project site is 337 feet south of Grandview Road and consists of: a small stand of planted hybrid poplar trees; open fields some of which have been classified as low-value wetlands (Category III-IV, Whatcom County Critical Area Ordinance); and thickets of blackberries. The entire site was farmed previous to 1969, when the land was purchased for the construction of the Refinery. Ambient lighting levels at the site are currently low and primary light sources in the area are from the nearby Refinery. Grandview Road, located along the northern border of the proposed Project, is the closest public viewing area of the Project site. Surrounding land uses with potential views of the Project are rural, residential, agricultural, and industrial.

##### **3.11.1.1 Methods**

The purpose of the visual resource analysis is to evaluate potential impacts from the proposed action on the existing visual environment. The visual resource method for inventory and impact assessment of the Project site includes the following:

- Inventory of existing visual quality;
- Identifying sensitive viewers and estimating their potential view of the proposed facility (general visibility and distance zone);
- Describing visual changes introduced by the construction and operation of the facility;
- Preparing various digitized visual simulations of the proposed facility from representative viewpoints;
- Assessing visual impacts from sensitive viewpoints; and
- Recommending possible visual impact mitigation measures.

The method for preparing the visual simulations for the visual resource portion of this application consisted of the following steps:

1. Viewpoints were identified from which the Project might be visible. This was undertaken using professional judgment and nearby public viewpoints.
2. Photographs were then taken of the existing topographic and vegetative features. A record was made of all photos taken, including the photo viewpoint and focal length.
3. Using the following data sources, various project sources were illustrated within individual photographs to visually demonstrate how a particular view is likely to change following Project construction. The data sources utilized include:
  - Preliminary grading plan,
  - Elevations, and
  - Photographs taken of the site from various viewpoints.

The photo-montages (simulations) were prepared by first creating 3D models in AutoDesk AutoCAD 2000 of the terrain and proposed grading and structures. The pictures were then aligned with the viewpoints in 3D Studio Viz 3i to merge the two. The composite simulations were then prepared using Adobe Photoshop 6.

Topography, vegetation (size and shape), and developed land uses were reviewed using USGS quadrangle and Project maps. Field reconnaissance was conducted to determine the general visibility of the project facilities from the identified sensitive viewpoints (e.g., residences, travel routes, or other sensitive viewpoints). Visual impacts were assessed based on the visibility of changes in the existing environment from the construction and operation of the Project from sensitive viewpoints in relationship to the viewer type. Levels of visual impact were documented as "high," "moderate," or "low."

**Visual quality** is described as the visual patterns created by the combination of natural character landscapes and industrial and man-made features. Visual quality was evaluated using the following descriptions:

- **Urban/Industrial** - Landscape is primarily man-made and impacted by elements common to built environment of urban/industrial areas. Human elements are prevalent or landscape modifications exist, which do not compatibly blend with the natural surroundings (low visual intactness and unity).
- **Rural** – The landscape consists of natural and human-made features/patterns often the result of altering the landscape for farming, mineral extraction, or forestry. Although these areas may not be visually distinctive or unusual within the region. The landscape integrity of the area may provide positive visual experiences such as natural areas with some existing agricultural areas (farm fields, etc.), or well-maintained and landscaped residential areas.
- **Natural** – The landscape exhibits distinctive and memorable natural visual features (landform, rock outcrops, etc.) and patterns (vegetation/open space) that are largely undisturbed-usually a rural or open space setting. Few human-made developments or disturbances are present.

**Viewer sensitivity** is a component of the visual landscape that estimates the sensitivity of the landscape based on the visual prominence or importance of features, conditions that affect visual perception, and social factors that contribute to viewer perceptions. It is dependent on viewer types and exposure (number of viewers and view frequency),

view orientation and duration, and viewer awareness/sensitivity to visual changes. Levels of viewer sensitivity were evaluated using the following criteria:

- **Low** - This classification of viewer is one who is focused on a work activity and not on the surrounding views. This category might include those who work in agriculture or industrial/warehouse settings. Compared with other viewer types, the number of viewers is generally considered small. Viewer activities typically limit awareness/sensitivity to the visual setting immediately outside the workplace.
- **Moderate** - Viewer types representing moderate visual sensitivity consist of highway and local travelers. The number of viewers varies depending on location; however, on average, they tend to be moderately large based on overall densities of surrounding areas and highway commuters. Viewer awareness and sensitivity are also considered moderate because destination travelers often have a focused orientation.
- **High** - Residential, recreational, and other viewers congregating in public gathering places (churches, schools, etc.) are considered to have comparatively high visual sensitivity. The visual setting may be a factor in building orientations or the enjoyment of the experience. Views may be of long duration and high frequency. In some cases, views may be perceived to affect property value.

**Visual impacts** relate to changes in available views of the landscape, and the effects of those changes on people. They arise from the changes in land use, the development of buildings and structures, changes in land management, and less commonly, the changes in production process and emissions. In addition, over the life of a project, different sources of impact occur at various stages during construction, operation, decommissioning, and restoration.

Potential impacts were subjectively evaluated as a combination of contrasts between natural, rural, urban/industrial levels of visual quality and the levels of viewer sensitivity. Following these guidelines, high sensitivity and moderate visual quality change, or moderate sensitivity and a high degree of visual quality change, could be considered potentially significant. Where sensitivity and visual change were judged to be moderate or low it was considered adverse, but not significant. If there was no change in the visual quality or sensitivity then it was judged that there was is no impact.

There was also consideration of distance from the proposed Project. Table 3.11.1 summarizes the how the visual impact is related to distance from the Project site.

TABLE 3.11-1

Visual Impact Rating

Distance	0 – 0.5 miles		0.5 miles – 3 miles		3 miles or greater	
Project/ Contrast	Project Site	Power Line	Project Site	Power Line	Project Site	Power Line
Viewer	Moderate	Moderate	Moderate	Low	Low	Low
Sensitivity	Moderate	Moderate	Low	Low	Low	Low

### 3.11.1.2 Visual Resource Inventory

#### Landscape Setting

BP proposes to construct the Cogeneration Project on land that was formerly used for agriculture, but since the construction of the Refinery, the land has been left fallow except for the planting of hybrid poplar trees. The project site has been under the ownership of BP for more than 30 years. The Cogeneration Project requires 33 acres of undeveloped land for the Project site itself. The proposed site is adjacent to and east of the Refinery. The nearest community is Birch Bay, Washington, about 2 miles northwest of the site.

Grandview Road, a two-lane state highway, is located to the north of the Project site. There is a 337-foot buffer between the centerline of Grandview Road and the north fence line of the project site. The proposed Project site, which is surrounded by a minimum of 0.5 mile of industrial zoned land use on all sides, will be entirely within BP property.

The Refinery, other industrial, and agricultural activities are the primary determinants of human-made visual character in the immediate Project area. Large stands of evergreen and deciduous trees dominate the landscape to the east of the proposed Project site, blocking views from the east. To the north, across Grandview from the proposed Project site, are a variety of habitat areas created and managed by BP. Some of these are intermittently used for cattle grazing and hay production. Beyond the fields, a tree line interrupts the landscape blocking views of the proposed Project area from residences to the north. To the northwest, the views are across fields that have constructed ponds, wetlands, and small stands of trees and shrubs. Jackson road intersects Grandview road about 1 mile west of the Project site. About 0.25 miles north of this intersection along Jackson Road, there is a church and some residences.

To the west and south are industrial operations of the Refinery and Praxair. Further south (south of Aldergrove Road) are forested areas and open fields. These forested areas, and other forested areas west of the Refinery block views of the Project site from the south and southwest outside of BP property.

The Georgia Strait is located more than 2 miles from the proposed Project site to the southwest. The entrance to Birch Bay State Park is located 1.92 miles to the northwest. This park includes forests, wetlands, and a portion of the shoreline of Birch Bay. An important feature of the park is Terrell Creek Marsh, a saltwater/freshwater estuary.

Southeast of the project site are stands of deciduous and coniferous trees which block views of the Project site from locations outside BP property. Lake Terrell, a 1,500-acre wildlife area managed by the Washington Department of Fish and Wildlife, is located beyond this area almost 2 miles to the southeast. The area is popular for fishing and hunting. Lake Terrell is also an operating farm, with between 80 and 100 acres farmed annually to produce winter food for waterfowl and upland game.

### 3.11.1.3 Visual Quality

#### Project Site

The proposed Project site will be located in an industrial zoned area that has existing industrial development. The BP Cherry Point Refinery visually dominates the view from the Project site looking west. Of the two other nearby industrial operations, Praxair can be seen to the south of the Project site, but the view of Chemco to the east is blocked by hybrid poplar trees. . The surrounding undeveloped land is relatively flat and as described above, with some hybrid poplar tree stands, low-quality wetlands and grasslands. The proposed Project site is bordered by existing roads and utility corridors on the north, west, and south.

Overall, the visual quality of the landscape setting would be classified as a mixture of “urban/industrial” and “rural” in character. The natural landscape features and patterns are not visually distinctive or unusual within the region, and the industrial development is intermixed with this rural landscape. Visual integrity of the landscape is low in the vicinity of the Project site, even though the landscape provides some positive visual experiences such as natural areas and existing agricultural areas, primarily north of Grandview Road, but these views are interrupted by the existing industrial developments.

Visual unity is generally low. Few undisturbed areas are present in the vicinity, with the industrial developments, open spaces and residential properties coexisting within a few miles of each other.

#### Pipeline Routes

The infrastructure necessary to support the proposed Project will be completely contained within BP-owned land. Water for the proposed Project will be provided from the Refinery system, which is supplied from the Whatcom PUD water supply system. A water supply connection from the Refinery to the proposed Project will be on BP-owned land. The primary supply of natural gas will be from the existing 16-inch-diameter Ferndale natural gas pipeline that runs through BP-owned land.

#### Transmission Line Route

The electrical transmission towers and corridor from the proposed Project will be on BP-owned land and will connect to the Refinery and to the BPA electrical transmission corridor adjacent to the BP-owned land. The construction of the electrical transmission line corridor access roads and tower pads was permitted previously under a separate action. The transmission line and connection to the BPA system may be visible from Kickerville Road east of the proposed Project site. Currently, vegetation within the transmission line corridor consists of a mosaic of wetland vegetation along with forested areas of mixed coniferous and deciduous forest.

### **3.11.2 Environmental Impacts of the Proposed Action**

#### **3.11.2.1 Viewer Impacts**

Primary viewer types that would observe the proposed Project site include all of the types described above in 3.11.1.1. The sensitivity of viewers in the area, who are present for commercial purposes or engaged in existing industrial and agricultural activities, is considered to be low. Most of these viewers are either employed by or are suppliers to the Refinery, Chemco, or Praxair. There are residential or recreation viewers that will drive by the site on Grandview Road or approach the proposed Project site as they are driving south on Blaine Road. The sensitivity of these viewers would be considered to be moderate since their view of the proposed Project site is limited to a short duration. Viewers that are residents or viewers from the Birch Bay Community Church would be considered potentially high impact viewers.

To analyze potential visual impacts, fifteen locations were selected as the viewpoints that might impact all three types of viewers. Figure 3.11-1 shows the location of the viewpoints.

Of the fifteen viewpoints photographed and analyzed, only four would have any noticeable visual perception of the proposed Project. The closest residential viewer is located at the intersection of Brown Road and Kickerville Road. This is Viewpoint 1 for the purposes of the study, and this location would not see the proposed Project since it will be obscured from view by a large forested area. Viewpoint 2 is located at the intersection of Jackson Road and Hewleg Road. This location currently has a view of the elevated features of the Refinery, and may include views of the HRSG stacks [and portions of the water droplet plume from the cooling tower](#) of the proposed Project. Viewpoint 3 is located at the Birch Bay Community Church, located on Jackson Road south of Viewpoint 2. Small portions of the taller features of the proposed Project facility [and portions of the water droplet plume from the cooling tower](#) may be visible from this viewpoint. Viewpoint 4 is located on Blaine Road north of the proposed Project facility, on BP-owned land. This site was selected because it is the viewer would have the longest duration view of the proposed Project as they are traveling south on Blaine Road. Viewpoint 15 is located on Kickerville between Grandview and Brown Road. This site was selected since the new power transmission line corridor would be visible from this location.

The following text summarizes the existing visual conditions and viewer sensitivity at each of the fifteen selected locations.

Existing View From Viewpoint 1, intersection of Brown and Kickerville

This site was selected because it is an intersection that is near the closest residences and the Whitehorn Fire Hall. Views at this intersection currently include a pasture to the northwest beyond which is a deep-forested area, a dairy to the northeast, and residences to the southeast and southwest. From this location the residents currently have no view of the Refinery due to the forested area to the west, which would also obscure any views of the Project site. The residents would be considered to have “moderate” sensitivity, but there are no visual impacts from this intersection.

Existing View From Viewpoint 2, intersection of Hewleg and Jackson

This location was selected because it is the entrance road to Birch Bay State Park and is near Beachwood Park. It is currently possible to see a portion of the stacks associated with the Refinery (see Figure 3.11-2a) and depending on the time of the year, and the presence of vegetation it may be possible to see upper portions of the proposed Project site [and water droplet plume from the cooling tower](#). The sensitivity of travelers at this location is "moderate", and because the view may be obscured for much of the year from this location it is considered to have "low" impacts.

Existing View From Viewpoint 3, Jackson and Birch Bay Community Church

The Birch Bay Community Church is located on a rise along Jackson Road. From the parking lot of the Church it is possible to see the higher elevation equipment at the Refinery, [and portions of the water droplet plume from the cooling tower may also be visible depending on the meteorological conditions](#). The intervening vegetation is low grass up to Grandview Road, beyond which tall-forested areas are present (see Figure 3.11-3a). Based upon the viewer type, traffic volume, and viewing range, visual sensitivity for visitors to the church or south-bound travelers along this section of Jackson Road is considered "moderate."

Existing View From Viewpoint 4, Blaine Road north of the proposed Cogeneration Project Site

This location is on Blaine Road and is primarily traveled by local residents and people conducting business in the surrounding area. No residential development is present in this location. A viewer traveling south on Blaine Road would see the proposed Project site at this location and would observe it for approximately 0.5-mile before stopping at the corner of Blaine Road and Grandview. At this intersection, the viewer will either turn east or west. If turning east, the viewer would continue to observe the proposed Project for approximately another 0.25-mile. This view would have the longest duration of all views of the Project site, but since it is in an existing industrial setting and most viewers are traveling by automobile, the visual sensitivity is considered "low." See Figure 3.11-4a for a visual representation from the corner of Blaine Road and Grandview Road.

Existing Views from Viewpoint 5, the intersection of Kickerville and Aldergrove Roads

This intersection was evaluated because from this viewpoint a traveler on both roads sees tall trees, power lines, various signs, and drainage features for the streets. No residential or industrial features are visible from this location. There are no visual impacts to travelers or residents in the vicinity of this location.

Existing Views from Viewpoint 6, at the Praxair facility on Aldergrove Road

The primary view at this location is the Praxair operation next to Aldergrove Road. The dominant existing view from this location is of the Refinery. The visual sensitivity for viewers, including travelers and employees of the industrial facilities, at this location is "low".

Existing Views from Viewpoint 7, intersection of Aldergrove and Jackson Roads

This location is approximately 8,000-feet from the proposed Project at the southwest corner of the Refinery industrial boundary. The view from this location was evaluated because it is a public intersection where a traveler would stop, however there is no existing view at this location of the Refinery or of the proposed Project site. The visual sensitivity of these travelers is “low”. There would be no visual impact from this location.

Existing Views from Viewpoint 8, at the Puget Power peaker station on the west side of Jackson Road

Because of the extensive tall vegetation on this portion of the BP property, no views of the Refinery are available at this location. Travelers on this street would primarily be involved with local industrial commerce. The visual sensitivity of these travelers is “low”. The proposed Project would not be visible from this location there is no visual impact.

Existing Views from Viewpoint 9, intersection of Grandview and Jackson Roads

This location was selected because it is a major intersection for travelers. Viewers at this location would be classified as moderately sensitive. However, from this location the stacks of the Refinery are not visible due to extensive tall vegetation on the BP property. The proposed Project will not be visible from this location; there is no visual impact.

Existing Views from Viewpoint 10, intersection of Pt. Whitehorn and Grandview Roads

This site was selected because residences are present on the north side of Grandview Road at this location. Viewers at this location would be considered to have “high” sensitivity. However, the Refinery is not visible from this viewpoint and there will be no views of the proposed Project. There is no visual impact for travelers or residents at this location.

Existing Views from Viewpoint 11, at the main entrance to Birch Bay State Park

Viewers at this location would be considered to have a “high” sensitivity. However, due to the trees present in the Park, no structural features at the Refinery or any structure outside of the Park are discernible. There are no visual impacts from this location.

Existing Views from Viewpoint 12, residential development on Bay Road

This viewpoint location was selected because of the residential development north of the proposed Project site (>1 mile). Viewers at this location are of “moderate” sensitivity. The view from this location includes tall vegetation located to the south and other features associated with residential development. No features of the Refinery are visible at this location and there would be no views of the proposed Project. There are no visual impacts at this location.

Existing Views from Viewpoint 13, intersection of Bay and Kickerville Roads

This viewpoint is located northwest of the proposed Project (>1 mile) and was also selected because it is an intersection near residential areas. Travelers at this intersection may include recreational, residential, and/or employees of the local industrial facilities.

Viewers would have both “low” and “moderate” sensitivity. Based on its distance (>1 mile) and the tall vegetation located to the south and southwest, no features of the proposed Project will be discernible. There are no visual impacts at this location.

Existing Views from Viewpoint 14, intersection of Grandview Road and the railroad tracks

This site was evaluated because it is a location where westbound travelers on Grandview Road will slow down due to the railroad tracks and it is near the industrial operation of Chemco. Viewers at this location are of “moderate” sensitivity. At this location, the Refinery is not visible, but with the construction of the proposed Project some of the tree line along the south side of Grandview Road may be removed. However, tree removal will not result in creating a view of either the Refinery or the proposed Project. There will be no visual impacts from this location.

Existing Views from Viewpoint 15, Kickerville Road between Brown and Grandview Roads

This site was selected since it will show the location of a transmission tower and corridor that will connect to the BPA 230 kV transmission line. Viewers at this location are of “moderate” sensitivity. Travelers at this viewpoint can see barns to the south and the Chemco industrial plant to the north. The traveler will be able to see a tall transmission tower as it will be constructed to the east of the existing tree line. The corridor will be partially obstructed by other trees and vegetation, depending on the angle of the traveler. The refinery may be visible for very short durations depending on the angle of the traveler, but the proposed Project will not be visible. The visual impact of the transmission corridor and tower at this location is considered to be “low” (see Figure 3.11-15a).

### 3.11.2.2 Light and Glare Impact Assessment

The Project site will be illuminated at night. Plant lighting will consist of low-level lighting around exit areas (minimum 2 foot-candles) and general outside area (0.2 to 5 foot-candles) including ground-level operating areas, stairs and platforms, roadways, storage areas, and parking areas. This lighting will be provided for purposes of general operator access and safety under regular operating conditions. Precise numbers and placement of lighting fixtures has not yet been determined, but outdoor lights will be a combination of pole-mounted and structure-mounted lights. Outside lighting around the exterior of buildings and ancillary equipment likely will be placed above doorways. Generally, lighting angles will vary, determined by economic evaluation of fixture wattage, light patterns, and light levels. No high-mast, wide-area lighting is planned.

Spot lighting will be provided for illumination level enhancement where needed around operating equipment. This lighting will be higher in intensity than general outside lighting (up to 10 foot-candles), but will be limited to specific areas and occasional usage. This lighting can be adjusted to minimize light spillover or direct glare in response to specific site conditions.

Emergency lighting will be provided for purposes of personnel egress and continuance of critical activities during failure of the normal power source or during emergency conditions. These instances are anticipated to be infrequent. Emergency lighting will be incandescent. Emergency lighting fixtures will be provided in the control room and

other operations buildings. The gas turbine and steam turbine packages have self-contained direct current (DC) lights.

The steel HRSG stacks are proposed to be 150 feet high, which is below the aircraft lighting requirements of the Federal Aviation Administration (FAA). The stacks will have platform lighting at emission monitoring locations, which will only be used during equipment inspection and maintenance.

Light and glare impacts on neighboring properties are expected to be minimal. During the day, potential glare impacts will be minimal because of the planned use of non-reflective ~~earth tone/light paint colors~~ gray on exterior surfaces. The potential for adjusting light directions and the use of supplemental light shields/vegetation to provide additional screening, if necessary, will minimize light spillover at night. There will be no anticipated glare impacts to drivers using Grandview or Blaine Roads. As an industrial land use, the Project site is expected to make a slight contribution to overall ambient light levels in the immediate vicinity. Because of the flat topography, some Project site lights may be seen by distant or elevated viewers, but impacts caused by lighting, if any, will be negligible.

### 3.11.2.3 Visual Contrast

During construction of the proposed Project site, grass and other vegetation will be stripped away as part of grading operations. The only viewers that might observe site grading and facility construction are travelers on Grandview or Blaine Road.

Heights of project components are presented on Table 3.11-2. The gas turbines will not be enclosed in buildings, the steam turbine will be ~~enclosed-located~~ in an enclosure building, and other ancillary elements will include liquid storage tanks, an electrical switchyard, an ~~air-cooled condenser~~ cooling tower, and HRSG stacks. Project elements, ~~except for the HRSG stacks,~~ will be painted predominantly ~~earth tones~~ gray. ~~The HRSG stacks will be painted a light, warm tone gray or similar color.~~ No noticeable visual changes will be introduced by construction of the proposed water and sewer pipelines because these utilities are already present.

Construction of the electrical transmission line will require clearing of a portion of the forested area to the east of the Cogeneration Project site. After construction is completed, the disturbed corridor will be reseeded with grasses and low vegetation.

TABLE 3.11-2 (REVISED)

#### Heights of Project Components

<b>Structure</b>	<b>Height</b>
Administration Building	30'
Steam Turbine Enclosure	50'
Combustion Turbine Equipment	75'
Water Tank (Demineralization)	50'
Cooling Tower	60'
HRSGs	95'
HRSG Stacks	150'

The proposed Project will appear similar to the adjacent Refinery, thereby presenting little visual contrast. Metal buildings with vertical and horizontal elements, colors, and large proportional sizes, will all be similar to those that were constructed on the Refinery site.

#### 3.11.2.4 Visual Impacts

##### Project Site

In general, visual impacts to the overall landscape setting resulting from construction of the Project site are expected to be low ("not significant"). The size of the site is relatively small compared to existing and on-going land disturbances created by the Refinery. Prior to construction, ~~a few of~~ the trees in the buffer zone on the south side of Grandview will be removed, leaving ~~an a partially un~~obstructed view for travelers along that road. Construction activities will be ~~partially~~ visible from this public transportation corridor on Grandview, but not visible from residential locations. No interim screening will be provided.

When construction is complete, the area along the south side of Grandview will be replanted ~~to the extent necessary~~ with trees adjacent to Grandview; behind that will be a forested wetlands mitigation area. Once constructed, the proposed Project is expected to introduce "low" to "moderate" visual impacts, depending on the viewer type and viewing distance. The facility will be visually compatible with the industrial development already existing in the area at the Refinery, Chemco and Praxair. The form, color, and scale of buildings will be similar to nearby industrial/warehouse development.

There will be ~~no an occasional~~ visible ~~emissions- water droplet plume related to the operation of the air-cooled condenser-cooling tower. The visibility of the plume will depend on the ambient temperature and relative humidity. The cooling tower design location will partially mitigate the visibility of the plume. The steam is completely contained inside the condenser tube with cooling air being forced to circulate past the tubes on the outside.~~

On a very cold day it maybe possible to see water vapor from the HRSG stacks due to the moisture in the flue gas condensing as it contacts and mixes with the cold air outside the stack. Similar water vapor ~~maybe~~ produced by the Refinery's existing boilers and heaters on cold days.

##### Impact At the Viewpoints

Visual impacts from each viewpoint where a potential impact was identified are summarized in Table 3.11-3.

TABLE 3.11-3

Summary of Visual Impacts from Representative Viewpoints

Location Description	Visual Quality	Visual Sensitivity	Visual Impact
Intersection of Hewleg and Jackson (VP-2)	Rural	Moderate	Low
Jackson Road at the Birch Bay Community Church (VP-3)	Rural and Urban/Industrial	Moderate	Low
Blaine Road North of the Cogeneration Project Site (VP-4)	Urban/Industrial	Low	High
Kickerville Road, south of Chemco and near residence (VP-15)	Rural and Urban/Industrial	Moderate	Low

Low = Not Significant  
Moderate = Minor Adverse, Not Significant  
High = Potentially Significant

The visual impacts from the development of the proposed Project were evaluated at each of the viewpoints. For the majority of the viewpoints (1, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14) the development of the proposed Project facility will not have ~~an a significant~~ impact. ~~For the locations where there is an impact (2, 3, 4, and 15 a visual simulation of before and after construction of the project from each location indicates with an arrow the location of the proposed Project. For location 4, a visual simulation of the project after construction is complete is provided.~~ A description of the potential viewer impacts from the locations where the proposed Project will be visible follows:

Viewpoint 2 - This location is the entrance to the Birch Bay State Park. It is possible to currently to see a portion of the stacks associated with the Refinery. The views of the proposed Project by travelers on Hewleg or Jackson Roads at this intersection will be intercepted by the brush and trees present in the intervening space (see Figure 3.11-2b). Based on the presence of vegetation between this intersection and the Cogeneration Project facility, the distance (0.5 to 3 miles), [the dispersion of the cooling tower water droplet plume](#), and the relative height of the HRSG stacks, the Cogeneration Project will have not have a significant impact on this moderately sensitive viewer. Although the viewers are considered moderately sensitive, the visual impact from the new installation will be "low."

Viewpoint 3 - Visual impacts for visitors to the Birch Bay Community Church at the [rise](#) on Jackson Road are estimated to be "low" (see Figure 3.11-3b). The sensitivity of church visitors is considered "moderate". However, the Refinery stacks and some other facilities are currently visible from this location as can be seen in the existing view. The modification of the view from the Church through addition of the HRSG stacks, [the cooling tower water droplet plume](#), and a portion of the ~~air-cooled condenser/cooling tower~~ equipment at a distance of 7,000 feet will result in a "low" impact.

Viewpoint 4 - The visual impacts for travelers using Blaine Road are estimated to be "high" (see Figure 3.11-4b) or potentially significant. It was ranked high because the viewing distance is relatively close from the road. A stop sign is present at Blaine Road as it intersects with Grandview Road. At this intersection the proposed Project facility will be in plain view.

Viewpoint 15 – The transmission line connection from the proposed Project facility to the existing BPA power grid will involve the installation of tall steel lattice tower structures, which will be located in a corridor through the forested area on the east side of the BP-owned land (see Figure 3.11-5b). These structures will be visible to travelers along Kickerville Road, along with the Chemco facility and various barns and sheds associated with farm animals. The transmission corridor was permitted in a separate action and it may be constructed with or without the proposed action. As a result, potential impacts of the corridor would likely have occurred regardless of the proposed project. No other Project-related structures will be visible. Based upon the viewer type, traffic volume, and viewing range, visual impact related to the transmission towers for travelers along Kickerville Road will be "low."

### **3.11.3 Environmental Impacts of the No Action Alternative**

With the no action alternative, the existing view of the Project site would remain as is, except that the hybrid poplar trees would be harvested at some unknown time in the future. For as long as the remaining land remained fallow, an increasing number of invasive plants (reed canary grass and blackberries) would occupy the site. Because the land is zoned Heavy Impact Industrial, however, it is likely that industrial development for the Project site would be proposed eventually.

The transmission line corridor would be constructed under the no action alternative, but the transmission lines would not be as tall or as visible under the proposed action.

### **3.11.4 Mitigation Measures**

Project elements, ~~except for the HRSG stacks,~~ will be painted ~~gray with earth tones.~~. ~~The HRSG stacks will be painted a light, warm tone gray or similar color.~~ These This colors will reduce surface glare from direct sunlight and minimize visual impact.

To avoid impacts to the nearest public viewing access locations, which will be located along Grandview and Blaine Roads:

- The facility will be painted ~~with earth tone colors~~ gray,
- The HRSG stacks will be painted ~~a light, warm tone gray or similar color~~ gray
- The Project is located approximately 337 feet from the centerline of Grandview Road so this area will provide opportunities to plant screening trees and shrubs depending on the final landscape designs.

### **3.11.5 Cumulative Impacts**

The presence of the Project facility will be visually similar to the Refinery that has been present in the vicinity for over 30 years. This development will appear as an extension of

the existing Refinery [with an additional water droplet plume](#), as fencing, signage, roadwork and landscaping will be developed in concert with the existing features. Since the area surrounding the Project site is zoned Heavy Impact Industrial, there may be additional development in the future.

In designating the land Heavy Impact Industrial in the Comprehensive Plan and other planning documents, Whatcom County considered the visual impact of future industrial development. Whatcom County also considered potential visual impacts of industrial development by requiring a setback from public roads in their zoning ordinance. By complying with the zoning regulations future industrial development will have less of a cumulative visual impact on travelers in the area.

BP has also taken into consideration cumulative visual impacts by limiting its industrial development to the south of Grandview Road in the vicinity of the existing Refinery complex. The BP-owned land north of Grandview Road has retained its “rural” character and BP intends to utilize this area for wetlands and other environmental mitigation.

### **3.11.6 Significant Unavoidable Adverse Impacts**

No unavoidable significant adverse impacts on visual resources or impacts from light or glare have been identified.