

## **APPENDIX G**

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### **The Visual Modification Class Approach to Assessing Impacts on Aesthetics/Visual Resources**



# **THE VISUAL MODIFICATION CLASS APPROACH TO ASSESSING IMPACTS ON AESTHETICS/VISUAL RESOURCES**

**Pacific L.A. Marine Terminal LLC  
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Subcontract No. 4400112602**

May, 2008

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# THE VISUAL MODIFICATION CLASS APPROACH TO ASSESSING IMPACTS ON AESTHETICS/VISUAL RESOURCES

## 1.0 Compliance with NEPA and CEQA

The technical approach to the Aesthetics/Visual Resource Impact Assessment has been developed by Lawrence Headley & Associates (LH&A) to conform to the documentation requirements of the National Environmental Policy Act of 1969 (NEPA; United States, 1969, as amended) and California Environmental Quality Act of 1970 (CEQA; State of California, 1970, as amended). NEPA did not directly establish specific guidance for conducting environmental analyses in conformance with that Act. Instead, it set forth national environmental policy and goals for the protection, maintenance, and enhancement of the environment, and provided a process for implementing these goals within federal agencies. NEPA, however, also established the Council on Environmental Quality (CEQ), which promulgated regulations implementing NEPA that are binding on all federal agencies. The regulations address the procedural provisions of NEPA and the administration of the NEPA process, including preparation of Environmental Impact Statements (EISs). Most federal agencies have set forth their own NEPA regulations and guidance which generally follow the CEQ procedures but are tailored to the specific mission and activities of each agency.

Those federal agencies that have not created their own regulations and guidance for visual resource management and analyses must rely on methodologies promulgated by other federal agencies. The best known of these include the analytical frameworks developed by the U.S. Department of Agriculture, Forest Service (USDA-FS, 1974, 1995); U.S. Department of Interior, Bureau of Land Management (USDI-BLM, 1978); and U.S. Department of Transportation, Federal Highway Administration (USDOT-FHWA, 1981).

The U.S. Forest Service (USFS) was the first of these agencies to develop and document a comprehensive system for addressing visual resources as part of this agency's land management process. Its handbook, *The Visual Management System* (USDA-FS, 1974), was followed by the BLM's and FHWA's handbooks in 1978 and 1981, respectively. The USFS has since revised its visual resource management

1 system (*Landscape Aesthetics. A Handbook for Scenery Management*, USDA-FS,  
2 1995), but the principles have remained the same.

3 The methodology for the Visual Resources assessment reflects the concepts and  
4 principles of the Visual Resource Management methodologies in use by the federal  
5 agencies noted. However, while providing much of the conceptual framework for the  
6 technical approach developed by LH&A, these analytical systems are not directly  
7 compliant with NEPA, as discussed below:

8 USFS and BLM Methodologies. The USFS and BLM approaches to visual  
9 resource assessment are closely similar. Both are frameworks for visual  
10 resource management planning, each aimed at establishing Visual  
11 Management Objectives (USFS) or Visual Management Classes (BLM) for  
12 the lands under their jurisdiction. These Objectives/Classes commit lands to  
13 specific levels of visual quality and become part of the overall land  
14 management plans adopted for the areas under agency jurisdiction. The  
15 adoption of these plans is a federal action requiring the preparation of a  
16 NEPA/CEQ-compliant EIS.

17 It is important to emphasize that the USFS and BLM systems were designed  
18 to: (1) inventory visual resources and provide the basis for ascribing visual  
19 resource management objectives to lands under agency management, and (2)  
20 to determine whether a proposed action or its alternatives would meet those  
21 management objectives. They do not offer a NEPA-compliant framework for  
22 identifying the intensity of impacts on visual resources or the significance of  
23 those impacts. Specifically, that which constitutes a significant impact is not  
24 defined and no thresholds (criteria or standards) for significance are offered.

25 FHWA Methodology. The FHWA methodology differs substantially from the  
26 USFS and BLM approaches in that this agency manages no land and,  
27 therefore, is not concerned with visual management objectives. Instead, it  
28 focuses on guiding the design of highway projects occurring on lands subject  
29 to various jurisdictions by identifying and mitigating adverse visual effects.  
30 However, like the other agencies, the FHWA neither defines what constitutes  
31 a significant impact nor identifies thresholds for significance. The system  
32 goes only as far as defining what a visual impact is: "...the degree of change  
33 in visual resources and viewer response to those resources caused by a  
34 development project (USDOT-FHWA, 1981, Appendix E: Glossary). Given  
35 the limits of the framework, as well as the type of projects addressed, it  
36 cannot serve to guide the preparation of a visual impact assessment meeting  
37 the requirements of an EIS.

38 Regarding compliance with CEQA, as is the case with the NEPA EIS process, an  
39 EIR focuses on a proposed project's potential to cause significant visual impacts. For  
40 the reasons that the USFS, BLM and FHWA methodologies are not compliant with  
41 the requirements of NEPA, they are also not compliant with those of CEQA: the  
42 systems do not serve to identify levels of impact intensity or criteria or standards for  
43 significance of impacts.

44 Unlike NEPA, CEQA provides some, albeit abbreviated, guidance in identifying the  
45 thresholds for significance, as discussed in Section 3.3 of this appendix. The federal

1 systems, however, do not offer the vocabulary to address those issues since they are  
2 directed toward adopting—and determining compliance with—agency visual  
3 management objectives. To adjust for this, the technical approach used in the  
4 accompanying assessment builds on CEQA guidance, addressing the specific issues  
5 of concern listed in Appendix G of CEQA (Environmental Checklist).

6 To summarize, all of the major federal methodologies present challenges in their  
7 application to EISs and EIRs. Therefore, the concepts of the federal methodologies  
8 noted have been adapted by LH&A in developing an analytical framework which  
9 efficiently addresses the core emphasis of NEPA and CEQA: identifying the nature,  
10 intensity and significance of visual impacts. The efficiency of the approach is  
11 effected by limiting the inventory of baseline visual conditions (Section 2.3 of this  
12 appendix) to the most critically important public views, those which are both  
13 “sensitive” and which would be substantially exposed to the project being evaluated  
14 (Section 2.2 of this appendix).

15 The approach has been applied by LH&A to numerous NEPA- and CEQA-compliant  
16 visual impact assessments over the last 18 years (Headley, 1988 – 2005). In the  
17 following sequence, the technical approach:

- 18 Identifies those views potentially affected by a proposed project over which the  
19 public is most likely to express concern (critical public views);
- 20 Describes the existing visual conditions (character and quality) of those  
21 potentially affected critically sensitive views;
- 22 Estimates the intensity of possible adverse visual impacts on those views;
- 23 Evaluates the significance of the possible impacts; and
- 24 As applicable, considers possible mitigation measures that could lessen the  
25 impacts to a level of intensity that is less than significant.

## 26 **2.0 Environmental Setting**

### 27 **2.1 Definition of the Resource**

28 The visual resources of an area include the features of its landforms, vegetation, water  
29 surfaces and cultural modifications (physical changes caused by human activities) that  
30 give the landscape its visually aesthetic qualities. Landscape features, natural appearing  
31 or otherwise, form the overall impression of an area. This impression is referred to as  
32 “visual character.” Visual character is studied as a point of reference to assess whether  
33 a given project would appear compatible with the established features of the setting or  
34 would contrast noticeably and unfavorably with them.

35 Visual resources have a social setting, which includes public expectations, values,  
36 goals, awareness and concern regarding visual quality. This social setting is addressed  
37 as “visual sensitivity,” the relative degree of public interest in visual resources and  
38 concern over adverse changes in the quality of that resource. As applied to visual  
39 impact analyses, sensitivity refers to public attitudes about specific views, or

1 interrelated views, and is key to identifying critical public views, assessing how  
2 important a visual impact may be, and whether or not it represents a significant impact.

## 3 **2.2 Critical Public Views**

4 Critical views are defined as being those sensitive public views that would be most  
5 affected by the subject action (e.g., the greatest intensity of impact due to viewer  
6 proximity to the project and project visibility, duration of the affected view, etc.).

7 The approach to identifying critical public views starts with an inventory of sensitive  
8 viewing positions in the project vicinity. Public surveys may be conducted to uncover  
9 attitudes toward the potentially affected visual resources which may indicate  
10 potential sensitivity to adverse changes in those resources. It is unusual for surveys to  
11 be held, due to constraints on the budget for the assessment and the time to complete  
12 the analyses. In the absence of public surveys, most often indicators of public  
13 concern are used to rate potential public sensitivity. A list of commonly used  
14 indicators is presented in Table G-1. This list reflects the concepts and methods of the  
15 USFS, BLM, and FHWA, which treat sensitivity as a function of viewer  
16 expectations, activity, awareness, values, and goals. Certain activities tend to  
17 heighten viewer awareness of scenic resources (recreational pursuits, for instance),  
18 while others tend to focus attention on other aspects of the environment (i.e.,  
19 commuting to work). Viewer awareness may also be heightened where areas are  
20 formally classified or otherwise designated as being of special interest, such as  
21 national historic monuments or national and state parks and forests.

22 High visual sensitivity is assumed to exist where landscapes, particular views, or the  
23 visual characteristics of certain features are protected through policies, goals,  
24 objectives, and design controls in public planning documents.

25 A key assumption of the technical approach is that public sensitivity is not always  
26 related to obvious aesthetic appeal. The public may confer visual significance on  
27 landscape components and areas that would otherwise appear unexceptional  
28 (USDOT-FHWA, 1981). Other areas may have regional or national cultural  
29 significance, but not be especially scenic. Nonetheless, their visual character may be  
30 considered important to their cultural value (USDOT-FHWA, 1981). Consequently,  
31 the methodology for describing the baseline for the visual impact analyses does not  
32 measure the aesthetic appeal, per se. Instead, the importance of the affected landscape  
33 is inferred from the indicators of sensitivity.

34 The degree of visual sensitivity is treated as occurring at one of four levels as  
35 follows:

36 High Sensitivity. High sensitivity suggests that there is great potential for the  
37 public to react strongly to a threat to visual quality. Concern is expected to be  
38 great because the affected views are rare, unique, or in other ways are special  
39 to the region or locale. A highly concerned public is assumed to be more  
40 aware of any given level of adverse change and less tolerant than a public  
41 that has little concern. A small modification of the existing landscape may be

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**TABLE G-1**

**INDICATORS OF VISUAL SENSITIVITY**

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**HIGH SENSITIVITY**

- Views of and from areas the aesthetic values of which are protected in laws, public regulations and policies, and public planning documents.
- Views of and from designated areas of aesthetic, recreational, cultural, or scientific interest, including national, state, county, and community parks, reserves, memorials, scenic roads and trails, interpretive sites of scientific value, scenic overlooks, recreation areas, designated open space, and historic structures, sites, and districts.
- Views of and from areas or sites of cultural/religious importance to Native Americans.
- Views from national or state-designated scenic highways or roads, or designated scenic highways or roads of regional importance.
- Views from resort areas.
- Views from urban residential subdivisions and segments of roads near them that serve as their primary access route.
- Views from segments of travel routes, such as roads, rail lines, pedestrian and equestrian trails, and bicycle paths, that are near, and are the primary access to, designated areas of aesthetic, recreational, cultural, or scientific interest and which lead directly to them. Views seen while approaching an area of interest may be closely related to the appreciation of the aesthetic, cultural, scientific, or recreational significance of that destination.

**MODERATE SENSITIVITY**

- Views from segments of travel routes near highly sensitive use areas of interest serving as a secondary access route to those areas.
- Views from highways or roads locally designated as scenic routes and of importance only to the local population, or informally designated as such in literature, road maps and road atlases.
- Views from rural residential areas (groups of four or more homes) and segments of roads near them that serve as their primary access route.
- Views of, and from, undesignated but protected or popularly used or appreciated areas of aesthetic, recreational, cultural, or scientific significance at the local, county, or state level.
- Views from segments of travel routes, such as roads, trails, bicycle paths, and equestrian trails, that are near, and are the primary access to, protected or popularly used undesignated areas important for their aesthetic, recreational, cultural, or scientific interest, and which lead directly to them.
- Views of and from religious facilities and cemeteries.

**LOW SENSITIVITY**

- Views from travel routes serving as secondary access to moderately sensitive areas.
  - Views from travel routes serving primarily commercial, industrial, or agricultural traffic, business parks, research, development and manufacturing sites.
  - Views from sites little frequented by the general public.
-

1 visually distracting to a highly sensitive public and represent a substantial  
2 reduction in visual quality.

3 Moderate Sensitivity. Moderate sensitivity suggests that there is substantial  
4 potential for the public to voice some concern over visual impacts of  
5 moderate to high intensity. Often the affected views are secondary in  
6 importance or are similar to others commonly available to the public.  
7 Noticeably adverse changes would probably be tolerated if the essential  
8 character of the views remains dominant.

9 Low Sensitivity. A small minority of the public may have a concern over scenic/  
10 visual resource impacts on the affected area. Only the greatest intensity of  
11 adverse change in the condition of aesthetics/visual resources would have the  
12 potential to register with the public as a substantial (significant) reduction in  
13 visual quality.

14 No Sensitivity. There is no sensitivity where the potentially affected views are  
15 not “public” (not accessible to the general public) or because there are no  
16 indications that the affected views are valued by the public.

17 A review of literature and maps, an inspection of the project site and the potentially  
18 affected environs, and a review of public scoping comments typically serve to  
19 identify indicators of public sensitivity. The range of sensitive views is then  
20 considered and several representative views in which the proposed facilities would be  
21 most noticeable are selected for detailed analysis. This decision is based primarily on  
22 proximity and degree and duration of project exposure. Consideration is also given to  
23 having the views be representative of the public experience; i.e., that they be from  
24 viewing positions frequently used by the public and readily located, based on the  
25 description and photographs presented in the visual impact assessment.

## 26 **2.3 Existing Visual Condition**

27 The visual condition of the landscape is the baseline against which the visual impacts  
28 of a proposed action or its alternatives is measured, and it is assessed only relative to  
29 critical public views, as defined in Section 2.2. This baseline is expressed in terms of  
30 the prevailing character of the affected setting and the degree to which past actions  
31 have modified the landscape in ways that are at variance with that character. Both the  
32 existing daytime visual conditions of the project vicinity and the existing conditions  
33 of night lighting are considered. The factors affecting the visual condition of the  
34 landscape are described in Sections 2.3.1 and 2.3.2.

### 35 **2.3.1 Existing Visual Condition: Physical Features and Viewing Conditions**

36 The existing visual condition of a landscape is described in terms of its inherent  
37 visual character (landscape character type), and the degree to which past actions have  
38 effected changes that are not consistent with that character. Because the assessment is  
39 done in relation to public viewing positions, visual condition is also a function of the  
40 public’s visual access to that landscape, such access shaping the perception of its  
41 physical qualities.

Visual Character: Physical Features and their Patterns of Distribution. A fundamental attribute of the existing visual condition of a landscape is its established visual character, which is defined in terms of the physical features and their distribution that are associated with the type of landscape that is the context for the assessment. As noted earlier, such features and their patterns may be considered to be “visual resources” yet have no demonstrable aesthetic appeal. For instance, local laws, regulations, plans and policies may protect certain views, indicating high sensitivity, even though the features individually or in aggregate may possess no obvious signs of “beauty” in any conventional sense.

Features and their patterns of distribution are treated as inherent—e.g. an established part of the setting—if they reflect how the landscape was formed (ecological processes versus human activities), how it functions (serving land uses or ecological relationships), and how it is structured (“patterns” of features, such as the broad rectilinear mosaic of irrigated croplands, a natural and irregular mosaic of grasslands and woodlands, or development according to how urban or rural lands are zoned).

Congruence (Intactness): A second attribute of the existing visual condition of a landscape is the *degree to which* its features currently are, or appear to be, congruent with those inherent to the character type of the potentially affected area. In terms of the FHWA methodology, what is being measured is the landscape’s current state of “intactness,” the integrity of the character type in terms of the degree to which it is free of “encroaching [incongruous] elements.”

Congruence, therefore, is inversely related to the degree to which past actions have noticeably and unfavorably affected landscape features and/or have noticeably introduced features that individually, or in aggregate, do not appear to be consistent with (inherent to) the underlying landscape character type. The aggregate of such unfavorable (incongruous) changes would lessen the “intactness” of the landscape.

Coherence (Unity). The third attribute of existing visual condition is coherence in which landscape features are arrayed and whether or not this array (pattern) expresses how the landscape was formed, how it functions, and how it is structured. In the terms of the FHWA methodology, the degree of visual coherence defines the “unity” of the landscape. A landscape may be “intact” relative to the types of features present, yet past actions may have affected their arrangement such that they are not coherently arrayed in the context of the whole. For instance, a rural residential area may once have comprised a unified array of single family homes on large lots, but subsequent re-zoning has resulted in encroaching pockets of quarter-acre lot subdivisions in a haphazard pattern. All housing in the area is of a single type—single family housing—but its organization does not coherently express rural residential zoning.

Visual Access. Apart from its physical features, the affected landscape is also described in terms of the viewing conditions which control the public’s visual access to the potentially affected landscape. These conditions include the public’s physical access to viewing positions, the breadth of available

1 views (panoramic or narrowly focal), the duration and timing of views  
2 (seasonal views, views restricted to certain parts of the day due to controlled  
3 access), whether the views are from stationary or mobile positions (along  
4 roads, trails and waterways), and the viewing angle. Past actions may have  
5 limited physical access to formerly available viewing positions or partially or  
6 totally blocked visual resources from public view, shortened view duration,  
7 or altered when the views are available (i.e., entry limited to certain hours of  
8 the day or times of the year).

### 9 **2.3.2 Existing Visual Condition: Sources of Light and Glare**

10 “Light” refers to artificial light emissions, or the degree of brightness, generated by a  
11 given source. The Illuminating Engineering Society of North America (IES) defines  
12 glare as “the sensation produced by luminance in the visual field that is sufficiently  
13 greater than the luminance to which the eye has adapted to cause annoyance,  
14 discomfort, or loss of visual performance and visibility” (IES 1993). Glare may occur  
15 from sources of night lighting or from reflected sunlight during the daytime,  
16 depending on the reflectivity of materials of construction, the direction of sunlight,  
17 and the position of the observer.

18 The existing condition of light and glare is defined by the following characteristics:

19 Lighting Character: Light Sources and Their Pattern of Distribution. The  
20 character of lighting is defined in terms of the types of lighting present and  
21 their pattern of illumination. Illumination may be described in terms of: 1)  
22 *Ambient Lighting*, the general overall level of lighting in a given area due to  
23 the various light sources present; 2) *Corona*, which is the diffuse halo of light  
24 that exists above a lit area, usually against a dark background and discerned  
25 only at substantial distances; and 3) *Glare*, as defined above: focused,  
26 intense, point-source or reflected light.

27 Congruence (Intactness). As with daytime visual conditions, this attribute is the  
28 degree to which past actions have noticeably and unfavorably changed the  
29 type and/or intensity of lighting in an area such that the result appears  
30 incongruent with the inherent character of lighting there.

31 Coherence (Unity). This attribute, as it pertains to lighting, is the internal  
32 consistency of scale, pattern and organization of the sources and effect of  
33 lighting relative to the potentially affected area.

### 34 **2.3.3 Visual Modification Classes**

35 Visual Conditions are expressed in terms of four Visual Modification Classes  
36 (VMCs), defined in Table G-2. The highest quality landscapes are those that are  
37 Visual Modification Class 1, in which all features and their distribution, as well as  
38 sources of lighting, appear to be characteristic of the established setting, and past  
39 actions have not introduced incongruous changes or altered viewing conditions, nor  
40 have such actions adversely affected the coherence (scale, pattern, organization,  
41 composition) of the landscape and its lighting.

1 Visual conditions that are Visual Modification Class 2 occur where adverse changes  
2 in the landscape and/or lighting are noticeable but subordinate to the features  
3 characteristic of the area; these changes may attract some attention, but they do not  
4 compete for it with other features in the field of view; and/or historically available  
5 scenic views may have become partly blocked or less inaccessible.

6 Visual conditions that are Visual Modification Class 3 occur where adverse changes  
7 in the landscape and/or lighting are distracting to the point they compete for attention  
8 with other features in view; and/or historically available and scenic views have  
9 become substantially blocked and/or inaccessible.

10 The lowest quality landscapes are Visual Modification Class 4, where incongruous  
11 features introduced by past actions dominate attention, or patterns natural to the area  
12 have been altered to the point of incoherence; historically available scenic views have  
13 been totally blocked or made inaccessible; and/or lighting has been altered to the  
14 point of dominating attention or causing glare.

## 15 **3.0 Visual Impact Assessment**

### 16 **3.1 Definitions**

17 Under NEPA, the terms “effect” and “impact” are used interchangeably. Effects  
18 include ecological, aesthetic, historic, cultural, economic, and social impacts as well  
19 as impacts on public health, whether direct, indirect, or cumulative. Effects may also  
20 include those resulting from actions which may have both beneficial and detrimental  
21 effects, even if on balance the agency believes that the effect would be beneficial.  
22 Direct and indirect effects are defined as follows:

23 Direct effects are those caused by the action and occurring at the same time and  
24 place.

25 Indirect effects are caused by the action and are later in time or farther removed  
26 in distance, but are still reasonably foreseeable.

27 Under CEQA, an effect is considered to be a change in any of the physical conditions  
28 within the area affected by the project (State of California, 1970).

29 NEPA offers no criteria or thresholds for the significance of impacts but does afford  
30 general guidance, as follows. In determining the significance of effects/impacts,  
31 NEPA/CEQ requires consideration of both context and intensity in judging whether  
32 or not an impact is significant (Sec. 1508.27, CEQ: Regulations for Implementing  
33 NEPA, Index and terminology). The context of an action includes the social context  
34 and the physical context. Intensity refers to the severity of the impact. Ten factors  
35 (types of issues) are listed, including the potential to affect health and safety, the  
36 unique character of the affected resource, the potential for controversy and precedent,  
37 the contribution to cumulative impacts, the effect on recognized, or potentially  
38 recognized, historic, scientific, or cultural resources, the impact on endangered or  
39 threatened species, and the potential to violate laws and regulations. Neither NEPA

1 nor any federal agency provides specific impact criteria to apply to the consideration  
2 of the ten types of issues. CEQA, on the other hand, offers some guidance. A  
3 significant impact would be "...a substantial, or potentially substantial, adverse  
4 change in any of the physical conditions within the area affected by the project,  
5 including...objects of...aesthetic significance." (Section 15382, Article 20).

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**TABLE G-2**  
**VISUAL MODIFICATION CLASS DEFINITIONS<sup>1</sup>**

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**VM Class 1 -** Not noticeable: changes in the congruence and/or coherence of the landscape that have occurred in the past, or may potentially occur in the future due to a proposed project, generally would be overlooked by all but the most concerned and interested viewers; they generally would not be noticed unless pointed out (inconspicuous because of such factors as distance, screening, low contrast with context, or other features in view, including the adverse impacts of past activities); And: Historically available and important views remain uninterrupted, and historically available access to public viewing positions has remained unimpeded.<sup>2</sup>

**VM Class 2 -** Noticeable, visually subordinate: changes in the congruence and/or coherence of the landscape that have occurred in the past, or may potentially occur in the future due to a proposed project would not be overlooked (noticeable to most without being pointed out). They may attract some attention but do not compete for it with other features in the field of view, including the adverse impacts of past activities. Such changes often are perceived as being in the background; And/Or: historically available views have become partially interrupted and/or the historically available access to public viewing positions has become noticeably, but only partly, impeded.

**VM Class 3 -** Distracting, visually co-dominant: changes in the congruence and coherence of the landscape that have occurred in the past, or may potentially occur in the future due to a proposed project, would compete for attention with other features in view (attention is drawn to the change about as frequently as to other features in the landscape); And/Or: historically available and scenic views have become largely interrupted, and/or the historically available access to public viewing positions has become substantially impeded.

**VM Class 4 -** Visually dominant, demands attention: changes in the congruence and/or coherence of the landscape that have occurred in the past, or may potentially occur in the future due to a proposed project, would be the focus of attention and tend to become the subject of the view. Such changes often cause a lasting impression of the affected landscape. And/Or: historically available scenic views have become totally blocked and/or historically available access to public viewing positions has been eliminated.

- 1) The Visual Modification Class definitions apply to the description of existing visual conditions of critical public views, as well as to the potential Future Visual Conditions resulting from the Project under consideration.
- 2) The consideration of adverse effects on public access to views (view interruption or blockage, and/or impedance of historically available public access to viewing positions) is limited to the consideration of Impacts AES-1 and AES-2.

Four specific areas of concern over substantial/significant visual impacts are listed in Appendix G of CEQA (Environmental Checklist) as follows:

1                   Substantial, adverse effects on a scenic vista.

2                   Substantial damage to scenic resources, including, but not limited to, trees, rock  
3                   outcroppings, and historic buildings within [view from] a state scenic  
4                   highway [insertion added for clarity by author].

5                   Substantial degradation of existing visual character or quality of a site and its  
6                   surroundings.

7                   Creation of a new source of substantial light or glare that would adversely affect  
8                   day or nighttime views in the area.

9                   No further guidance is provided, and it is at the discretion of the investigator, or the  
10                  lead agency responsible for the EIR, to determine criteria for what constitutes a  
11                  “substantial” effect, damage, degradation, or new source of light or glare.

12                  In the absence of specific guidance from NEPA and CEQA, LH&A has developed an  
13                  approach to assessing visual impacts and their significance which draws upon the  
14                  principles common to the three primary federal systems for visual resource  
15                  management referenced (USDA-USFS, USDI-BLM and USDOT-FHWA). This  
16                  approach has been applied over an 19-year period to numerous CEQA- and NEPA-  
17                  compliant documents (Headley, 1988-2007).

18                  Accordingly, the following definition of “visual impact” is used for the purposes of  
19                  this report:

20                  A **Visual Impact** is an adverse effect on aesthetics/visual resources that occurs  
21                  when:

22                         Features are altered, introduced, made less visible, or are removed, such that  
23                         the resultant effect on the views is perceptibly inconsistent with the  
24                         inherent, established character of the landscape; and/or

25                         Access to public views is diminished such that the affected view has become  
26                         limited to some degree and/or physical access to public viewing positions  
27                         has become impeded.

28                  Visual impacts are further defined as follows:

29                  **Visual Impact Intensity.** The intensity of a visual impact depends upon how  
30                  noticeable the adverse change may be. It is indicated by the degree to which  
31                  existing visual conditions (the baseline for the analyses) would change as a  
32                  result of features of project construction and operation. Three levels of visual  
33                  impact intensity may occur. Level 1 is a reduction in Visual Conditions by  
34                  one Visual Modification Class (VMC) rating; Level 2 is a reduction by two  
35                  VMC ratings; and Level 3 is a reduction by three VMC ratings (Table G-2  
36                  defines Visual Modification Classes).

1                   **Significant Visual Impact.** The following definition paraphrases and augments  
2                   the CEQA definition of impact significance stated earlier:

3                   A significant visual impact is one that would cause a substantial, or  
4                   potentially substantial, adverse change in the visual resources of the  
5                   affected environment; and/or

6                   The impact would cause recognized or valued public views to become  
7                   substantially blocked or screened from view; and/or or cause historically  
8                   available public access to such views to become substantially  
9                   diminished; and/or

10                  The impact would result in an inconsistency with the regulatory setting  
11                  (laws, ordinances, regulations, and standards (LORS)] applicable to the  
12                  protection of visual resources.

13                  **Substantial Adverse Change.** A substantial, adverse change in visual resources  
14                  is one which causes a noticeable reduction in visual quality. Whether a  
15                  noticeable reduction in visual quality would occur depends upon the public's  
16                  sensitivity to adverse impacts on specific views, the nature and intensity of  
17                  the actual effects, and the duration of the effects, as qualified by the temporal  
18                  viewing context (discussed below). It is a premise that a highly sensitive  
19                  public is more apt to notice adverse changes in visual resources of lesser  
20                  intensity than a less sensitive public and to regard such effects as  
21                  “substantial” and therefore significant. Table G-3 summarizes the  
22                  relationship of impact intensity and sensitivity to the perception that a  
23                  substantial reduction in visual quality would occur; however, note that this  
24                  table applies only to Impacts AES-1 – AES-4.

25                  **Temporal Viewing Context.** A final consideration is the temporal context for  
26                  the impact. For an adverse impact to be considered a noticeable reduction in  
27                  visual quality (substantial adverse change) or to be inconsistent with LORS,  
28                  the impact must occur over an appreciable period of time—usually one year  
29                  or longer—as opposed to being ephemeral or brief. However, visual impacts  
30                  enduring for less than one year may also be appreciable, depending on the  
31                  temporal context (assuming criteria for impact intensity and viewer  
32                  sensitivity have been met, and/or criteria for inconsistency with LORS  
33                  apply). In general, the relevance of impact duration is scaled to the  
34                  availability of a view in the experience of the observer and the observer's  
35                  sensitivity to the potential for adverse effects upon a visual resource. For  
36                  instance, views that are seasonally critical and highly sensitive (e.g., views  
37                  characterizing the one-time summer experience of a visitor to a recreation  
38                  resource or tourist destination) might have an impact duration threshold of  
39                  significance measured in terms of three months or fewer.

## 3.2 Visual Impact Intensity

The intensity of an impact is addressed as the degree to which visual conditions change adversely relative to existing (baseline) conditions (see Section 2.2, Existing Visual Condition). Where the existing visual condition (described in terms of Visual Modification Classes—VMCs; Table G-2) would be reduced from VMC 1 to a future

condition of VMC 2, there would be a level 1 impact intensity; a reduction from VMC 1 to VMC 3, or VMC 2 to VMC 4, would be a level 2 impact intensity; and a reduction from VMC 1 to VMC 4 would be a level 3 impact intensity. The intensity of a visual impact is a function of how apparent project-related changes are within the affected views (e.g., barely noticeable versus visually dominant). The significance of the impact depends on the degree to which visual conditions change, the duration of the change, and the sensitivity of the view affected (Table G-1).

In estimating the intensity of potential visual impacts, several factors affecting the context of views are considered: viewer activity; primary viewing direction(s); viewing distance; project exposure; duration of any given viewing “event” (as distinguished from the overall period of time an impact would endure); relationship of the subject view to the sequence available; the presence of existing features of competing visual interest; and established features tending to draw attention toward the proposed Project facilities (focal point sensitivity).

Instrumental in determining the intensity of visual impact is the use of visual simulations. These are realistic computer-generated three-dimensional images of a proposed project that simulate project features in their context as they would be seen in critical views and under specific viewing conditions matching baseline photographs of the same views. These conditions include angle of view, distance, time of day, and ambient lighting and atmospheric perspective (the attenuation of details due to particulates or moisture). The computer imaging is generally restricted to features of the project, with the context being represented by a photograph. The image and photograph are then blended to realistically portray the project in its context.

Details about the camera used for the base photograph are recorded and later emulated by the computer program used for the simulation. Key information about the camera includes its location, tilt, bearing, lens focal length, time of the photograph, and exposure information. To correlate the computer image with the photograph, a Global Positioning System may be used to identify the location and elevation of the camera lens.

The camera data collected in the field is input into a computer program (such as 3d Studio Max, an Autodesk product widely used for architectural visualization) that digitally replicates the three dimensional world at full scale. The computer simulation can vary in detail from a highly detailed architectural model of the project to a simple massing study lacking detail but representing the volume and dimensions of the project. Projects seen at a moderate distance, for instance, can be successfully simulated using a massing study because details cannot be discerned at a substantial distance. A closer view would justify a more detailed simulation. Confirmation of scale and position of the computer rendering is often accomplished by installing marker poles on site at points correlating with the project plan to provide registration

**TABLE G-3**

**RELATIONSHIP OF IMPACT INTENSITY AND VISUAL SENSITIVITY TO AN EFFECT'S BEING PERCEIVED AS A SUBSTANTIAL REDUCTION IN VISUAL QUALITY (SIGNIFICANT IMPACT)<sup>3</sup>**

		Visual Sensitivity <sup>1</sup>			
		High	Moderate	Low	None
Intensity of Impact <sup>2</sup>	Level 1	S <sup>3</sup>	N	N	N
	Level 2	S	S	N	N
	Level 3	S	S	S	N

- 1) High Sensitivity (H):** The potential for public concern over adverse change in scenic/visual quality is great. Affected views are rare, unique, or in other ways are special and highly valued in the region or locale. The smallest perceptible change in visual conditions (Impact Intensity Level 1 [see below]) would be considered to be a substantial (significant) lessening of visual quality.
- Moderate Sensitivity (M):** The potential for public concern over adverse change in scenic/visual quality is substantial. Affected views are secondary in importance or similar to views commonly found in the region or locale. A moderately to highly intense visual impact (Impact Intensity Levels 2 or 3) would be perceived as a significant lessening of visual quality.
- Low Sensitivity (L):** Generally, there may be some indication that a small minority of the public has a concern over scenic/ visual resource impacts on the affected area. Only the greatest intensity of adverse change in the condition of aesthetics/visual resources (Impact Intensity Level 3) would have the potential to register with the public as a substantial (significant) reduction in visual quality.
- No Sensitivity (N):** The views are not public, or there are no indications of public concern over, or interest in, scenic/visual resource impacts on the affected area.
- 2) Intensity of Impact:**
- (Level 1)** A reduction in Visual Condition by one Visual Modification Class rating (Table G-2).
  - (Level 2)** A reduction in Visual Condition by two Visual Modification Class ratings.
  - (Level 3)** A reduction in Visual Condition by three Visual Modification Class ratings.
- 3) Significance:** **This Table pertains to Impacts AES-1 – AES-4.**  
**S:** Significant Impact, if the effect persists for an appreciable duration, generally one year or more. Note that the temporal viewing context may indicate that impacts lasting less than one year may represent a substantial (significant) impact.  
**N:** Less-than-Significant Impact (no substantial reduction in visual quality), regardless of duration.

1 points. The preliminary computer image will simulate the project and poles, and the  
 2 image will be positioned and scaled until the simulated poles overlay exactly those  
 3 appearing in the underlying base photograph. Aerial photographs and USGS maps  
 4 are typically used to confirm locations and angles of view.

5 The impression of the project can be represented under specific lighting and  
 6 atmospheric conditions. For instance, the computer can simulate the effect of haze  
 7 and backlighting (where the sun is behind the project) on color. The amount of haze  
 8 is estimated by sampling shadow tones in the foreground and background, comparing  
 9 the two, and arriving at a color and density for the atmospheric haze. Shadows and  
 10 sun angle are derived from the latitude and time of day so they match what appears in  
 11 the photograph.

12 **3.3 Significance**

13 The intensity of the impact (the degree of change in Visual Modification Class  
 14 ratings) is compared to the sensitivity of the affected view to determine whether a  
 15 substantial (significant) reduction in visual quality is likely to occur. Table G-3  
 16 presents the correlation of impact intensity and view sensitivity to the perception that  
 17 an impact has caused a substantial reduction in visual quality. As noted, the  
 18 perception of lowered visual quality is one of three criteria for significance; the other  
 19 two are the duration of the impact and its consistency with laws, ordinances,  
 20 regulations, and standards (LORS) applicable to the protection of visual resources.  
 21 Regarding the latter, an adverse visual impact may be significant if it is inconsistent  
 22 with LORS, whether or not it meets the criteria in Table G-3.

23 As discussed in Section 3.2, a perceptible reduction in visual quality or an  
 24 inconsistency with LORS is generally not treated in this methodology as significant  
 25 unless it is estimated to persist for more than one year (see Section 3.1). However,  
 26 the relevance of impact duration is scaled to the temporal context; the availability of  
 27 a view in the public experience may, for instance, be seasonal, and a relatively brief  
 28 impact of a few months can represent a substantially adverse effect on tourism or  
 29 recreation.

30 **3.3.1 CEQA Thresholds of Significance**

31 The following stated thresholds of significance address the CEQA-listed issues of  
 32 concern (see Section 3.1) in Appendix G of CEQA (State of California, 2004,  
 33 Environmental Checklist). Key to these thresholds is the determination of whether  
 34 “substantial” impacts would occur. Table G-3 serves to help in assessing whether an  
 35 impact passes over the threshold to become a “substantial”—and therefore a  
 36 significant—adverse effect.

37 **AES-1: Would the Proposed Project or its alternatives cause**  
 38 **substantial, adverse effects on a scenic vista?**

39 The *L.A. CEQA Thresholds Guide* addresses **Impact AES-1** under the  
 40 heading of “Obstruction of Views.” Therefore, this CEQA issue of concern is

1 interpreted as addressing the degree to which project-related features  
2 interfere with a scenic vista, either by physically blocking or screening the  
3 vista from view, or by impeding or blocking access to a formerly available  
4 public viewing position.

5 In accordance with the *Thresholds Guide* and the City of Los Angeles'  
6 Conservation Element, a scenic vista within the terms of CEQA shall include  
7 focal as well as panoramic views of both natural and man-made features of  
8 visual interest that are recognized or valued. An implied definition of  
9 "recognized or valued" occurs in Section 2 (B) of the *Thresholds Guide* (p.  
10 A.1-4), which addresses how the environmental setting is to be described.  
11 To be included are features that are "listed, designated or otherwise  
12 recognized by the City (e.g., a scenic corridor, historic district, heritage oak  
13 trees)." In the absence of such formal recognition of value, there may be  
14 other indications that the view is valued for being a scenic vista. For  
15 instance, a high-quality view from a recreational site or tourist destination  
16 may be presumed to be "valued" as a scenic vista. Accordingly, for this  
17 assessment the following definition is applied:

18 A view is "recognized or valued" if the City of Los Angeles through its  
19 General Plan and Elements has listed, designated, or in some manner  
20 explicitly or implicitly addressed a view or feature in a plan, policy or  
21 objective as having aesthetic or visual resource value; or, if not meeting  
22 that criterion, the potentially affected view is demonstrably high in  
23 quality and its value is indicated by how the public uses the area from  
24 which the view occurs (e.g., a recreation site, informal but well-used  
25 scenic turnout, a tourist attraction, residential area, historic or  
26 archeological site).

27 **AES-2: Would the Proposed Project or its alternatives cause substantial**  
28 **damage to scenic resources, including, but not limited to, trees, rock**  
29 **outcroppings, and historic buildings, within [view from] a state scenic**  
30 **highway?**

31 The editorial inclusion of "view from" corrects an assumed typographical  
32 error. CEQA issue **AES-2** is concerned with the impact on the scenic  
33 resources within views from a state scenic highway. However, the  
34 *Thresholds Guide* emphasizes a concern over the obstruction of views from  
35 scenic highways, corridors, or parkways. Therefore, this methodology more  
36 broadly applies **AES-2** not only to impacts on scenic resources viewed from  
37 scenic highways, designated scenic routes, corridors and parkways, but also  
38 to view obstruction relative to scenic highways, routes, corridors and  
39 parkways.

40 Although the emphasis here is damage to scenic resources within view from  
41 a scenic highway, also considered is Project-related blocking of views from  
42 such a road. However, this impact is addressed under **AES-1**. Also, reference  
43 to "scenic highways" is interpreted to also include locally designated scenic  
44 byways, drives, corridors, or parkways.

1                   **AES-3:    Would the Proposed Project or its alternatives cause a**  
2                   **substantial degradation of existing visual character or quality of a site**  
3                   **and its surroundings?**

4                   CEQA Issue **AES-3** addresses the potential for project features’ being  
5                   incongruous with the character of those that are inherent to the landscape  
6                   within the potentially affected public views, as well as the adverse effects on  
7                   the coherence (unity) of the patterns of landscape features.

8                   **AES-4:    Would the Proposed Project or alternatives result in a new**  
9                   **source of substantial light or glare that would adversely affect day or**  
10                  **nighttime views in the area?**

11                  Two areas of concern are at issue:

12                  The change in ambient illumination levels as a result of project sources; and

13                  The extent to which project lighting would spill off the project site and affect  
14                  adjacent light-sensitive areas.

15                  **AES-5:    Would the Project or alternatives result in substantial negative**  
16                  **shadow effects on nearby shadow-sensitive uses?**

17                  The CEQA Checklist does not address the potential impact of shading by  
18                  project-related structures. However, **Impact AES-5** is listed here because  
19                  the *L.A. CEQA Thresholds Guide* requires its consideration. The *Thresholds*  
20                  *Guide* offers the following specific criterion as the threshold for significance:

21                                “A project impact would normally be considered significant if shadow-  
22                                sensitive uses would be shaded by project-related structures for more  
23                                than three hours between the hours of 9:00 A.M. and 3:00 P.M. Pacific  
24                                Standard Time (between late October and early April), or for more than  
25                                four hours between the hours of 9:00 A.M. and 5:00 P.M. Pacific Daylight  
26                                Time (between early April and late October).”

27                  Further guidance is offered in the form of the following screening criterion:

28                                “Would the project include light-blocking structures in excess of 60 feet  
29                                in height above the ground elevation that would be located within a  
30                                distance of three times the height of the proposed structure to a shadow-  
31                                sensitive use on the north, northwest, or northeast?”

32                  **AES-6:    Would the Proposed Project or alternatives result in visual**  
33                  **impacts that would not be consistent with applicable rules and**  
34                  **regulations?**

35                  This impact is relevant to CEQA, as extended through the *L.A. CEQA*  
36                  *Thresholds Guide*, and to NEPA, as discussed in Section 3.1.4.2.1 (CEQA  
37                  Criteria) and Section 3.1.4.2.2 (NEPA Criteria). Under **Impact AES-6**, an  
38                  impact would be significant if it is not consistent with laws, ordinances,  
39                  regulations or standards (LORS) supporting policies and objectives

1 applicable to the protection of features and views of aesthetic/scenic value  
2 (“applicable rules and regulations”). An inconsistency could be due to an  
3 adverse effect that otherwise would be less than significant. Therefore,  
4 consistency with the regulatory setting is listed as a separate category of impact.

### 5 **3.3.2 NEPA Thresholds of Significance**

6 As noted, there are no standards for determining the significance of visual/aesthetic  
7 resources impacts under NEPA or under CEQ regulations, nor are such standards  
8 stated in any of the federal agency visual resource analysis or management systems.  
9 However, of the ten types of issues listed in NEPA as being important to consider,  
10 three appear relevant to visual resource impact assessment: the unique character of  
11 the affected resource, the potential for controversy, and the potential to violate laws  
12 and regulations (Sec. 1508.27, CEQ: Regulations for Implementing NEPA, Index and  
13 terminology).

14 CEQA thresholds for significance address two of these three NEPA issues. First, the  
15 character of the affected resource is addressed by threshold **AES-3** (“...existing  
16 visual character or quality of a site....”). Second, the potential to violate laws and  
17 regulations is addressed by threshold **AES-3**, which assesses the Project’s  
18 consistency with the regulatory setting. Finally, the potential for controversy is  
19 assessed by identifying the sensitive public views potentially affected by a proposed  
20 action or its alternatives (critical public views). To summarize, the relevant  
21 thresholds for significance applied to the NEPA components of the Project are the  
22 same as CEQA thresholds **AES-3** and **AES-6**, coupled with the emphasis on critical  
23 public views.

24

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