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September 29, 2015

VIA EMAIL AND OVERNIGHT MAIL

Greg Brehm, Director of Power Resources  
Marin Clean Energy  
1125 Tamalpais Avenue  
San Rafael, California 94901  
[gbrehm@mcecleanenergy.org](mailto:gbrehm@mcecleanenergy.org)

Re: Comments on the Draft Environmental Impact Report for the  
Richmond Solar PV Project (SCH 2015042040)

Dear Mr. Brehm:

We are writing on behalf of **Bay Area Citizens for Responsible Solar** to comment on the Richmond Solar PV Project ("Project") Draft Environmental Impact Report ("DEIR") prepared for Marin Clean Energy ("MCE") pursuant to the California Environmental Quality Act ("CEQA").<sup>1</sup> The Project is a 10.5 megawatt solar photovoltaic system, which includes approximately 80,000 solar panels, 11 utility-scale inverters, transformers, switching substations, overhead conductors and poles. The Project site is located on 60 acres at the Chevron Richmond Refinery property in the City of Richmond. Approximately 40 of these acres are a capped landfill and the remaining 20 acres consist of filled and compacted fertilizer ponds.

As explained more fully below, the DEIR does not comply with the requirements of the CEQA, including requirements to provide an accurate and complete Project description, to adequately describe the environmental setting, to support findings with substantial evidence and to identify and mitigate the Project's potentially significant impacts. MCE cannot approve the Project until the errors in the DEIR are remedied and a revised DEIR is circulated for public review and comment.

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<sup>1</sup> Pub. Resources Code §§ 21000 et seq.

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We prepared these comments with the assistance of hazardous materials expert Matt Hagemann and biological resources expert Scott Cashen. Mr. Hagemann's and Mr. Cashen's technical comments on the DEIR and their qualifications are attached and submitted to MCE in addition to the comments in this letter. MCE must address and respond to the comments of Mr. Hagemann and Mr. Cashen separately from the comments in this letter.

## I. STATEMENT OF INTEREST

Bay Area Citizens for Responsible Solar ("BACRS") is a coalition of individuals and labor organizations that may be affected by the potential health and safety hazards and environmental impacts of the Project. The coalition includes City of Richmond residents Daneal Harris, Quincy Harris, Bryan Hicks and Dennis Hicks, and California Unions for Reliable Energy ("CURE") and its local union affiliates and their members and their families ("Coalition"). The Coalition was formed to advocate for responsible and sustainable solar development in the San Francisco Bay Area to protect public health and safety and the environment where the Coalition members and their families live, work and recreate.

Daneal Harris lives, works and recreates in the City of Richmond. Mr. Harris has a personal interest in protecting the Project area from unnecessary, adverse impacts to plants, wildlife, water resources and public health. Mr. Harris visits, appreciates and enjoys the ecosystem in and around the Project area.

Quincy Harris lives, works and recreates in the City of Richmond. Mr. Harris has a personal interest in protecting the Project area from unnecessary, adverse impacts to plants, wildlife, water resources and public health. Mr. Harris visits, appreciates and enjoys the ecosystem in and around the Project area.

Bryan Hicks lives, works and recreates in the City of Richmond. Mr. Hicks has a personal interest in protecting the Project area from unnecessary, adverse impacts to plants, wildlife, water resources and public health. Mr. Hicks visits, appreciates and enjoys the ecosystem in and around the Project area.

Dennis Hicks lives, works and recreates in the City of Richmond. Mr. Hicks has a personal interest in protecting the Project area from unnecessary, adverse

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impacts to plants, wildlife, water resources and public health. Mr. Hicks visits, appreciates and enjoys the ecosystem in and around the Project area.

CURE is a coalition of labor organizations whose members encourage sustainable development of California's energy and natural resources. Environmental degradation destroys cultural and wildlife areas, consumes limited fresh water resources, causes air and water pollution, and imposes other stresses on the environmental carrying capacity of the State. This in turn jeopardizes future development by causing construction moratoriums and otherwise reducing future employment opportunities for those members. Additionally, the labor organization members live, recreate, work and raise their families in the City of Richmond and surrounding areas. Accordingly, they would be directly affected by the Project's adverse environmental impacts. The members may also work on the Project itself. They will, therefore, be the first in line to be exposed to any hazardous materials and other health and safety hazards that exist onsite.

## II. THE DEIR FAILS TO SATISFY CEQA'S FUNDAMENTAL PURPOSES AND GOALS

CEQA has two basic purposes, neither of which the DEIR satisfies. First, CEQA is designed to inform decisionmakers and the public about the potential, significant environmental effects of a project.<sup>2</sup> Except in certain limited circumstances, CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an environmental impact report ("EIR").<sup>3</sup> An EIR's purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. Thus, an EIR "protects not only the environment but also informed self-government."<sup>4</sup>

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and "reflect a good faith effort at full disclosure."<sup>5</sup> CEQA requires an EIR to disclose all potential direct and indirect, significant environmental impacts of a

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<sup>2</sup> Cal. Code Regs., tit. 14, (hereinafter, "CEQA Guidelines") § 15002(a)(1).

<sup>3</sup> See, e.g., Pub. Resources Code § 21100.

<sup>4</sup> *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

<sup>5</sup> CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.

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project.<sup>6</sup> In addition, an adequate EIR must contain the facts and analysis necessary to support its conclusions.<sup>7</sup>

The second purpose of CEQA is to require public agencies to avoid or reduce environmental damage when possible by requiring appropriate mitigation measures and through the consideration of environmentally superior alternatives.<sup>8</sup> If an EIR identifies potentially significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.<sup>9</sup> CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.<sup>10</sup> Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

The DEIR fails to perform either of these roles adequately. The DEIR fails to reflect a good faith effort at public disclosure because it does not adequately describe the Project, fails to set forth an accurate and complete environmental setting, and fails to adequately disclose, analyze and mitigate the Project's significant impacts on biological resources, water quality and public health and safety. Due to these significant informational gaps in MCE's analysis, the DEIR's findings that the Project's potentially significant impacts will be reduced to a less than significant level are not supported by substantial evidence. Moreover, these informational gaps preclude the public and decisionmakers from being able to meaningfully evaluate and comment on the potential impacts of this Project or the adequacy of the DEIR.

### III. THE PROJECT DESCRIPTION IS INADEQUATE

The DEIR violates CEQA because it contains an incomplete and inadequate Project description. An accurate and complete project description is necessary to perform an adequate evaluation of the potential environmental effects of a proposed

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<sup>6</sup> Pub. Resources Code § 21100 (b)(1); CEQA Guidelines § 15126.2(a).

<sup>7</sup> See *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 568.

<sup>8</sup> CEQA Guidelines § 15002(a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564; *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391, 400.

<sup>9</sup> Pub. Resources Code §§ 21002.1(a), 21100(b)(3).

<sup>10</sup> Pub. Resources Code §§ 21002-21002.1.

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project.<sup>11</sup> In contrast, an inaccurate or incomplete project description renders the analysis of environmental impacts inherently unreliable.<sup>12</sup> Without a complete project description, the environmental analysis under CEQA will be impermissibly narrow, thus minimizing the project's impacts and undercutting public review.<sup>13</sup> The courts have repeatedly held that “[a]n accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.”<sup>14</sup>

Here, the DEIR fails to meet this basic threshold. The DEIR fails to adequately describe basic Project components. Without an adequate description of the Project's components, decision makers and the public cannot assess the Project's impacts. Further, because the DEIR fails to describe key details, it lacks foundation for many of its conclusions regarding the insignificance of environmental impacts. Moreover, it renders public comment and review meaningless since the public is not provided with basic information about the Project necessary to assess potential impacts. This has the very real consequence of defeating the public's efforts to understand and assess the Project's impacts. MCE must prepare and circulate a revised EIR containing a complete Project description and analysis of Project impacts.

#### A. The DEIR Fails to Describe the Project's Construction Water Demand

The DEIR completely fails to describe the Project's construction water demand. The Initial Study for the Project (Appendix A to the DEIR) states that to minimize dust during Project construction, “exposed ground areas” would be watered twice a day.<sup>15</sup> Construction will take approximately 18 months.<sup>16</sup> The DEIR fails to describe the amount of water required to minimize dust during the 18-month construction period. The DEIR also fails to describe other Project construction water demands typical of solar facilities, such as water for concrete mixing and soil compaction. Without a complete description of the Project's construction water demand, it is impossible to determine whether there is sufficient water supply for the Project and the DEIR's conclusion that there is a sufficient

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<sup>11</sup> *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192.

<sup>12</sup> *Id.* at 192-193.

<sup>13</sup> See, e.g., *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376.

<sup>14</sup> *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.

<sup>15</sup> DEIR, Appendix A, p. 10.

<sup>16</sup> DEIR, p. 2-15.

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water supply is unsupported. The DEIR must be revised to include a description of the Project's construction water demand.

**B. The DEIR Fails to Adequately Describe the Project's Operation Water Demand**

The Initial Study states that Project operation "requires a limited amount of water."<sup>17</sup> It states that "solar panels would be washed once per year."<sup>18</sup> Neither the Initial Study nor the DEIR describe the actual amount of water required for Project operation. Without a complete description of the Project's operation water demand, it is impossible to determine whether there is sufficient water supply for the Project and the DEIR's conclusion that there is a sufficient water supply is unsupported. The DEIR must be revised to include an adequate description of the Project's operation water demand.

**C. The DEIR Fails to Describe the Project's Water Supply**

The DEIR provides no information regarding the Project's water supply. The DEIR merely states that "a portable water tank on maintenance vehicles or a water truck" would be used for panel washing.<sup>19</sup> Without any information regarding the Project's water supply, there is no support for the DEIR's conclusion that the Project's impacts on water supplies would be less than significant.

**D. The DEIR Fails to Describe Decommissioning Activities with Sufficient Specificity to Assess Potential Impacts**

The DEIR's Project description is inadequate because it fails to adequately describe decommissioning activities that are part of the Project design. The DEIR's "Project Description" states that "[a]t the end of the project's useful life (anticipated being 30 years or more), the proposed solar facility and associated infrastructure may be decommissioned."<sup>20</sup> The "Hazards" section of the DEIR states that "it is too speculative to provide details in this EIR describing specific decommissioning activities and potential impacts that could occur far in to the future."<sup>21</sup> The DEIR

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<sup>17</sup> DEIR, Appendix A, p. 30.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> DEIR, p. 2-15.

<sup>21</sup> *Id.*, p. 4.2-8.

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purports to evaluate Project decommissioning “based on current standard decommissioning practices, which include dismantling and repurposing, salvaging/recycling, or disposing of project components, and site restoration.”<sup>22</sup> However, the DEIR’s “analysis” of decommissioning is actually deferred until after Project approval. For example, mitigation measure HAZ-3 requires the Project operator to prepare a recycling or disposal plan for PV modules and support structures prior to construction permit issuance.<sup>23</sup> The DEIR provides few details for decommissioning activities useful to an impact analysis.

Despite identifying decommissioning as part of the Project, the DEIR fails to adequately describe the decommissioning phase of the Project. The DEIR does not describe decommissioning activities in sufficient detail to allow the public or decisionmakers to meaningfully assess these impacts on their own. As a result, the DEIR did not (and could not) adequately assess the Project’s impacts from decommissioning.

Under CEQA, the whole of the action that is required to be described in the project description includes any future activities that are reasonably anticipated to become part of the project, including “later phases of the project.”<sup>24</sup> The requirements of CEQA cannot be avoided by excluding reasonably foreseeable future activities that may become part of the project.<sup>25</sup> The EIR must supply enough information so that the decision makers and the public can fully understand the scope of the project.<sup>26</sup> Without an accurate description on which to base an EIR’s analysis, CEQA’s objective of furthering public disclosure and informed environmental decision-making would be impossible and consideration of mitigation measures and alternatives would be rendered useless.<sup>27</sup> If key project features are not described, then the related direct, indirect and cumulative impacts cannot be evaluated, mitigation measures cannot be imposed, and alternatives cannot be effectively evaluated.

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<sup>22</sup> *Id.*

<sup>23</sup> *Id.*, p. 4.2-13.

<sup>24</sup> *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283-84; CEQA Guidelines §15378.

<sup>25</sup> Pub. Resources Code § 21159.27 (prohibiting piecemealing); *see also, Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351, 370.

<sup>26</sup> *Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal.App.4th 20, 26.

<sup>27</sup> *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193, 197-198, 203.

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The DEIR here fails to adequately describe the full scope of the Project being approved, including decommissioning, and thus fails to disclose the full range and severity of the Project's environmental impacts. The public and decision makers have this, and only this, opportunity to comment on the Project. For this reason, every phase of the Project must be assessed now, including the decommissioning phase.

There is no question that decommissioning activities may result in environmental impacts, including impacts to air quality, biological resources, water and solid waste capacity, among other impacts. "Decommissioning entails a range of considerations to restore a site to its original environment, including removal of all structures, foundations, wires and hazardous materials."<sup>28</sup> In addition, restoration of topsoil and vegetation may be necessary.<sup>29</sup> Decommissioning may require significant excavation, grading and demolition activities that could result in "environmental disturbances like noise, dust, water quality and impact on local wildlife and vegetation."<sup>30</sup>

The DEIR must be revised to provide an adequate description of what activities decommissioning entails and an analysis of the potential impacts from such activities. Because such revisions would be significant, the revised DEIR must be recirculated for public review and comment.<sup>31</sup>

#### **IV. THE DEIR FAILS TO ADEQUATELY ESTABLISH THE EXISTING ENVIRONMENTAL SETTING AGAINST WHICH THE DEIR IS REQUIRED TO ANALYZE THE PROJECT'S POTENTIALLY SIGNIFICANT IMPACTS**

The DEIR describes the existing environmental setting inaccurately and incompletely, thereby skewing the impact analysis. The existing environmental setting is the starting point from which the lead agency must measure whether a

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<sup>28</sup> Voegelé & Changala, *Decommissioning Funds for Renewable Energy Facilities*, Vermont Law School Institute for Energy and Environment (Sept. 2010), p. 1.

<sup>29</sup> *See Id.*; *see also* Proposed Policies for Solar Energy Facilities in Rural Alameda County, Alameda County Planning Department (Sept. 13, 2011), p. 2.

<sup>30</sup> Voegelé & Changala, *Decommissioning Funds for Renewable Energy Facilities*, Vermont Law School Institute for Energy and Environment (Sept. 2010), p. 1.

<sup>31</sup> Pub. Resources Code § 21092.1; CEQA Guidelines § 15088.5; *Laurel Heights Improvement Association v. Regents of Univ. of Cal.* (1993) 6 Cal.4<sup>th</sup> 1112, 1129.



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proposed project may cause a significant environmental impact.<sup>32</sup> CEQA defines the environmental setting as the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, from both a local and regional perspective.<sup>33</sup>

Describing the environmental setting accurately and completely for each environmental condition in the vicinity of the Project is critical to an accurate, meaningful evaluation of environmental impacts. The importance of having a stable, finite, fixed environmental setting for purposes of an environmental analysis was recognized decades ago.<sup>34</sup> Today, the courts are clear that, “[b]efore the impacts of a project can be assessed and mitigation measures considered, an [environmental review document] must describe the existing environment. It is only against this baseline that any significant environmental effects can be determined.”<sup>35</sup> In fact, it is:

a central concept of CEQA, widely accepted by the courts, that the significance of a Project’s impacts cannot be measured unless the DEIR first establishes the actual physical conditions on the property. In other words, baseline determination is the first rather than the last step in the environmental review process.<sup>36</sup>

The DEIR must also describe the existing environmental setting in sufficient detail to enable a proper analysis of Project impacts.<sup>37</sup> Section 15125 of the CEQA Guidelines provides that “[k]nowledge of the regional setting is critical to the assessment of environmental impacts.”<sup>38</sup> This level of detail is necessary to “permit the significant effects of the Project to be considered in the full environmental context.”<sup>39</sup>

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<sup>32</sup> See, e.g., *Communities for a Better Env’t v. S. Coast Air Quality Mgmt. Dist.* (March 15, 2010) 48 Cal.4th 310, 316; *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1278 (“*Fat*”), citing Remy, et al., Guide to the Calif. Environmental Quality Act (1999) p. 165.

<sup>33</sup> CEQA Guidelines §15125(a) (emphasis added); *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1453 (“*Riverwatch*”).

<sup>34</sup> *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185.

<sup>35</sup> *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952.

<sup>36</sup> *Save our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 125.

<sup>37</sup> *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal.App.4th 1109, 1121-22.

<sup>38</sup> CEQA Guidelines § 15125(d).

<sup>39</sup> *Id.*

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The description of the environmental setting in the DEIR is inadequate because it omits highly relevant information regarding biological resources. MCE must gather the relevant data and provide an adequate description of the existing environmental setting in a revised DEIR.

**A. The DEIR Fails to Establish the Environmental Setting From Which to Analyze the Project's Potentially Significant Impacts on Biological Resources**

The DEIR grossly misrepresents the environmental setting from which to analyze the Project's impacts on biological resources, including several federal and/or State protected species, such as the salt-marsh harvest mouse and burrowing owl, among other protected species. Without an accurate description of the environmental setting, there is no way to determine the Project's impacts to biological resources and, therefore, no way to apply appropriate mitigation for those impacts. To comply with CEQA, the DEIR must be revised to include accurate and complete descriptions of baseline conditions as follows:

*1. The DEIR's Environmental Setting for Biological Resources Must be Based on Adequate Survey Effort and Information*

The DEIR states that impact analyses on sensitive biological resources are based on a "reconnaissance-level field survey conducted within the project site by Rincon biologists on January 26, 2015."<sup>40</sup> No protocol-level special status species surveys were conducted.<sup>41</sup> Expert biologist Scott Cashen explains in his comments that the information in the DEIR regarding the survey is insufficient to determine the extent of the Project's impacts on biological resources, or to ensure effective mitigation is imposed to reduce impacts to a less than significant level.

According to Mr. Cashen, the following information related to the survey is necessary to determine the Project's impacts on biological resources, but is missing from the DEIR:

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<sup>40</sup> DEIR, p. 4.1-1.

<sup>41</sup> *Id.*

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- A description of the survey methods, including the level of effort (e.g., man-hours) and techniques that were used to detect plant and animals species;
- A description of the survey area (it appears from Figure 4.1-1 that the survey area was limited to the Project footprint and excluded habitats north and south of the Project site that could be indirectly impacted by the Project);
- Information on habitat conditions for the tidal marsh that bisects the Project site, the freshwater emergent marsh immediately south of the Project site and the ponds immediately north of the Project site;
- A complete list of the plant species detected during the survey; and
- A complete list of wildlife detected during the survey.

Further, Mr. Cashen explains that due to the timing of the survey (January), birds that occur at the Project site during the breeding season could not have been detected, and “most of the special-status plant species that could occur at the site would not have been evident and identifiable.”<sup>42</sup>

These deficiencies preclude reliable impact analyses and effective mitigation. MCE must prepare a revised DEIR that is based on an adequate survey effort and sufficiently describes the survey effort and findings.

*2. The DEIR Must Adequately Describe Habitat for Special-Status Plants and Animals that May be Indirectly Affected by the Project*

The DEIR provides a list of plant species and their potential to occur on the Project site.<sup>43</sup> However, the DEIR provides no information on the potential for these species to occur outside of the Project footprint in areas that may be indirectly affected by the Project, such as the tidal channel between the fertilizer pond and landfill.

Similarly, the DEIR provides a table of special-status animal species that could occur on the Project site,<sup>44</sup> but fails to provide information on the potential for

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<sup>42</sup> Attachment A: Letter from Scott Cashen to Rachael Koss re Comments on the Draft Environmental Impact Report Prepared for the Richmond Solar PV Project, September 22, 2015 (“Cashen Comments”), p. 2.

<sup>43</sup> DEIR, Table 4.1-1.

<sup>44</sup> *Id.*, Table 4.1-2.

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these species to occur outside of the Project footprint in areas that may be indirectly affected by the Project. For example, the DEIR states that suitable nesting habitat for the California clapper rail is “not present on site,” but that the species “may forage in adjacent salt and freshwater marshes.”<sup>45</sup> Yet, the DEIR does not state whether there is suitable nesting habitat for the California clapper rail in the adjacent marshes. As a result, the public and decision makers cannot evaluate the Project’s potentially significant indirect impacts on the California clapper rail (or several other species whose habitat is inadequately described in the DEIR).

### *3. The DEIR Must Adequately Describe Raptor Use of the Project Site*

The DEIR provides inconsistent and unreliable information on raptor use of the Project site. Specifically, the DEIR states “limited observations of burrowing owl, northern harrier, short-eared owl and white-tailed kite within the vicinity of the project site” occurred “over the last five years.”<sup>46</sup> This conflicts with another statement in the DEIR that “numerous” observations of white-tailed kites and northern harriers have occurred within two miles of the Project site.<sup>47</sup>

In his comments, Mr. Cashen notes that MCE’s consultant did not conduct surveys to establish raptor use of the Project site (and surrounding vicinity).<sup>48</sup> Rather, the DEIR relies on the reconnaissance-level survey and information from two databases, the California Natural Diversity Database (“CNDDDB”) and the eBird database to establish raptor use of the Project site.<sup>49</sup> According to Mr. Cashen, neither the survey nor these databases are sufficient to establish raptor use of the Project site.<sup>50</sup> First, the survey is inadequate because a single reconnaissance-level survey during the non-breeding season cannot establish raptor use of the site.<sup>51</sup> Second, the CNDDDB and eBird database are inadequate because they are “positive sighting” databases, which means they are entirely dependent on survey effort and the subsequent submittal of the survey data to the databases.<sup>52</sup> Here, the Project site and many of the surrounding properties are private land that is inaccessible to

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<sup>45</sup> *Id.*

<sup>46</sup> *Id.*, p. 4.1-24.

<sup>47</sup> *Id.*, p. 4.1-15.

<sup>48</sup> Cashen Comments, p. 3.

<sup>49</sup> DEIR, pp. 4.1-1 and -15.

<sup>50</sup> Cashen Comments, p. 3.

<sup>51</sup> *Id.*, pp. 3-4.

<sup>52</sup> *Id.*, p. 4.

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the public and no survey has been conducted. Consequently, the CNDDDB and eBird databases likely have limited records of burrowing owl, northern harrier, short-eared owl, and white-tailed kite in the vicinity of the Project site.<sup>53</sup>

4. *The DEIR's Analysis of Impacts on the Burrowing Owl Must be Based on Adequate Surveys*

MCE's consultant conducted a single reconnaissance-level survey in January to determine burrowing owl use of the Project site. Mr. Cashen explains that the survey effort is inadequate to determine the environmental setting against which to measure the Project's impacts on the burrowing owl.

Mr. Cashen explains that, according to the California Department of Fish and Wildlife's ("CDFW") Staff Report on Burrowing Owl Mitigation ("Staff Report"), non-breeding season surveys (September 1 to January 31) "do not substitute for breeding season surveys because results are typically inconclusive." This is because "burrowing owls are more difficult to detect during the non-breeding season and their seasonal residency status is difficult to ascertain."<sup>54</sup> Burrowing owl researchers and the CDFW have concluded that four independent surveys are necessary to provide reliable information on the presence of burrowing owls.<sup>55</sup>

Without sufficient information regarding the presence of burrowing owls, it is impossible to determine the extent of the Project's impacts on the species. Until surveys that adhere to CDFW guidelines are conducted, there is no support for MCE's conclusion that impacts on the burrowing owl would be mitigated to a less than significant level.

5. *The DEIR's Analysis of Impacts on Botanical Resources Must be Based on Adequate Surveys*

CDFW survey guidelines provide that protocol-level botanical surveys should be conducted when any one of these factors exist: (1) natural (or naturalized) vegetation occurs on the site, it is unknown if special status plant species or natural communities occur on the site and the project has the potential for direct or indirect

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<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

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effects on vegetation; (2) special status plants or natural communities have historically been identified on the project site; or (3) special status plants or natural communities occur on sites with similar physical and biological properties as the project site.<sup>56</sup> Mr. Cashen explains that protocol-level botanical surveys should be conducted for the Project because the Project site satisfies all three of these criteria.<sup>57</sup> Protocol-level botanical surveys were not conducted for the Project. Further, Mr. Cashen explains that, because the reconnaissance-level survey was conducted in January, it was impossible to detect special-status plants on the Project site since the plants do not bloom in January.<sup>58</sup> To establish the existing setting and comply with CDFW guidelines, MCE must conduct appropriately timed floristic surveys on the Project site and buffer zone containing natural or naturalized vegetation. Only then can the public and decisionmakers evaluate the Project's impacts on sensitive botanical resources.

*6. The DEIR Must Adequately Describe the Environmental Setting for Salt-Marsh Harvest Mouse and San Pablo Vole*

The salt-marsh harvest mouse is a federally and state listed endangered species that has a high to very high risk of extinction at both the global and statewide levels.<sup>59</sup> It is also "Fully Protected" under California Fish and Game Code.<sup>60</sup> The San Pablo vole is a California Species of Special Concern that has a high to very high risk of extinction at both the global and statewide levels.<sup>61</sup> The DEIR states the Project site does not provide suitable habitat for these species.<sup>62</sup> This conflicts with the Chevron Refinery Modernization Project EIR, which states that the salt-marsh harvest mouse and San Pablo vole could disperse through the solar facility site from nearby degraded marsh habitat.<sup>63</sup> Mr. Cashen explains that, "[b]y definition, habitat is defined by the behaviors of the organism. Therefore, if

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<sup>56</sup> *Id.*, p. 5.

<sup>57</sup> *Id.*, pp. 5-6.

<sup>58</sup> *Id.*, p. 6.

<sup>59</sup> California Department of Fish and Wildlife, Natural Diversity Database. July 2015. Special Animals List. Periodic publication. 51 pp. Available at: <<http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>>.

<sup>60</sup> *See* <[https://www.dfg.ca.gov/wildlife/nongame/t\\_e\\_spp/fully\\_pro.html](https://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html)>.

<sup>61</sup> *Id.*

<sup>62</sup> DEIR, Table 4.1-2 and p. 4.1-13.

<sup>63</sup> *Id.*, p. 4.1-13.

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these species could disperse through the solar facility site, the site provides habitat (i.e., dispersal habitat)."<sup>64</sup>

Mr. Cashen also explains why the DEIR's statement that the Project site does not provide suitable habitat for the salt-marsh harvest mouse or San Pablo vole conflicts with scientific information. Specifically, both species frequently utilize terrestrial grassland habitats adjacent to tidal marsh, similar to the habitat on the Project site.<sup>65</sup>

MCE must prepare a revised DEIR that adequately describes the environmental setting for the salt marsh harvest mouse and San Pablo vole. Without sufficient information, it is impossible to determine the extent of the Project's impacts on these species and there is no support for the DEIR's conclusion that the Project's impacts on them would be less than significant.

#### **V. THE DEIR FAILS TO ADEQUATELY DISCLOSE, EVALUATE AND MITIGATE ALL POTENTIALLY SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES**

The Project area is rich in biological resources and ecological value. The North Coast Salt Marsh, tidal channels and freshwater emergent marsh are within the immediate vicinity of the Project site.<sup>66</sup> There are also five natural vegetation communities within the vicinity of the Project site.<sup>67</sup> There are 35 special status animal species known to occur within the vicinity of the Project site.<sup>68</sup> In addition, the Project site is located along the Pacific Flyway and is one mile from San Francisco Bay, which is recognized as a Western Hemisphere Shorebird Reserve Network Site of Hemispheric Importance for shorebirds.<sup>69</sup> San Francisco Bay is one of the most important wetland sites along the Pacific coast for waterbirds, hosting millions of wintering and breeding shorebirds, waterfowl and other birds annually.<sup>70</sup> Therefore, it is essential that MCE fully and adequately analyze and

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<sup>64</sup> Cashen Comments, p. 7.

<sup>65</sup> *Id.*

<sup>66</sup> DEIR, p. 4.1-15.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*, p. 4.1-13.

<sup>69</sup> *See* <http://www.whsrn.org/site-profile/san-francisco-bay>.

<sup>70</sup> *See*

<http://www.pointblue.org/uploads/assets/education/SFBayBirdPocketGuide4webPDFreduced.pdf>.

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mitigate the Project's potentially significant impacts on biological resources that are present on or around the Project site.

A. **The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Burrowing Owls**

*1. The DEIR Fails to Analyze the Project's Significant Impacts on Burrowing Owls from Passive Relocation*

Mitigation measure BIO-2(c) states that passive relocation of burrowing owls may be necessary to reduce the Project's potentially significant impacts on burrowing owls to a less than significant level.<sup>71</sup> However, passive relocation itself causes significant impacts on burrowing owls. Despite this, the DEIR does not analyze the potentially significant impacts associated with passive relocation, as required by CEQA.<sup>72</sup>

In his comments, Mr. Cashen explains that passive relocation poses a significant risk to burrowing owls.<sup>73</sup> CDFW has concluded that passive relocation is a potentially significant impact under CEQA that must be analyzed.<sup>74</sup> According to the CDFW, temporary or permanent closure of burrows may result in: (a) significant loss of burrows and habitat for reproduction and other life history requirements; (b) increased stress on burrowing owls and reduced reproductive rates; (c) increased depredation; (d) increased energetic costs; and (e) risks posed by having to find and compete for available burrows.<sup>75</sup>

Moreover, research shows that most translocation projects have resulted in fewer breeding pairs of burrowing owls at the mitigation site than at the original site, and that translocation projects have generally failed to produce self-sustaining

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<sup>71</sup> DEIR, p. 4.1-25.

<sup>72</sup> CEQA requires that all potential environmental impacts must be analyzed and that all significant impacts must be mitigated, including impacts from mitigation measures themselves. Where mitigation measures would, themselves, cause significant environmental impacts, CEQA requires an evaluation of those secondary (indirect) impacts (see CEQA Guidelines § 15064(d)).

<sup>73</sup> Cashen Comments, p. 8.

<sup>74</sup> California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. p. 10. Available at: <<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83843>>.

<sup>75</sup> Cashen Comments, p. 8.



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populations.<sup>76</sup> Investigators attribute the limited success of translocation to strong site tenacity exhibited by burrowing owls and potential risks associated with forcing owls to move into unfamiliar and less preferable habitats.<sup>77</sup>

*2. The DEIR's Mitigation Measures do Not Reduce the Project's Impacts to Burrowing Owls to a Less than Significant Level*

MCE's proposed mitigation for the Project's significant impacts to burrowing owls includes a pre-construction survey and establishment of buffer zones around active burrows. In Mr. Cashen's opinion, neither the proposed survey nor the buffer zones will reduce the Project's impacts to burrowing owls to a less than significant level.

First, the proposed pre-construction clearance survey is inconsistent with CDFW guidelines. The DEIR provides that the survey will be conducted within 14 days prior to construction and ground disturbance activities.<sup>78</sup> Under CDFW guidance, however, an initial pre-construction survey should be conducted within 14 days prior to ground disturbance and a subsequent survey should be conducted within 24 hours prior to ground disturbance.<sup>79</sup> This is because burrowing owls can re-colonize a site after only a few days.<sup>80</sup> Moreover, CDFW makes clear that pre-construction surveys are not a substitute for the four surveys required to evaluate the Project's impacts on burrowing owls. According to Mr. Cashen, "a single pre-construction survey up to 14 days in advance of construction is insufficient to avoid and minimize take of burrowing owls."<sup>81</sup> In other words, the pre-construction survey proposed in the DEIR is insufficient to reduce the Project's impacts on burrowing owls to a less than significant level.

Second, the buffers proposed in the DEIR are insufficient to reduce the Project's impacts on burrowing owls to a less than significant level. The DEIR proposes a 50-meter buffer around occupied burrows during the non-breeding season and a 100-meter buffer around burrows occupied during the breeding

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<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> DEIR, p. 4.1-25.

<sup>79</sup> Cashen Comments, p. 15.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.*

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season.<sup>82</sup> These buffer distances are inconsistent with CDFW standards. CDFW provides that activities involving a “low” level of disturbance should incorporate a buffer of 50 meters during the non-breeding season and 200 meters during the breeding season, and those buffers should be extended to 500 meters for activities that involve a “high” level of disturbance.<sup>83</sup> Here, the Project involves activities that constitute a “high” level of disturbance, such as pile-driving and grading. Therefore, the Project requires a 500-meter buffer around burrows.<sup>84</sup>

Finally, the DEIR makes no mention of compensatory mitigation to reduce the Project’s impacts on burrowing owls and their foraging habitat to a less than significant level. According to CDFW, scientific literature shows that “mitigation for permanent habitat loss *necessitates* replacement with an equivalent or greater habitat area...”<sup>85</sup> Mr. Cashen explains that compensatory mitigation in this case is crucial “given the perilous status of the species in the Project region and the ongoing decline of the species throughout most of the state.”<sup>86</sup>

MCE must prepare a revised DEIR that adequately discloses, analyzes and mitigates the Project’s potentially significant impacts on burrowing owls.

**B. The DEIR Fails to Adequately Analyze and Mitigate the Project’s Impacts on Valley Needlegrass Grassland**

The DEIR states that the Project has been designed to avoid direct impacts to the Valley Needlegrass Grassland community on the Project site. However, it is impossible to verify the feasibility of avoiding direct impacts on this plant community because the DEIR does not provide a site plan that depicts the location of the solar arrays and internal access roads in relation to the Valley Needlegrass Grassland community. Moreover, the DEIR fails to disclose and analyze the Project’s indirect impacts on the Valley Needlegrass Grassland community (and other sensitive natural communities adjacent to the Project site). According to Mr. Cashen, potentially significant indirect impacts on sensitive natural communities

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<sup>82</sup> DEIR, p. 4.1-25.

<sup>83</sup> Cashen Comments, p. 16.

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

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could occur from dust, erosion, spread of invasive weeds, shading and alterations in hydrology.<sup>87</sup>

MCE must prepare a revised DEIR that provides a site plan depicting the location of the solar arrays and roads in relation to the Valley Needlegrass Grassland community. The revised DEIR must also disclose, analyze and mitigate the Project's potentially significant indirect impacts on sensitive natural communities.

**C. The DEIR Fails to Adequately Analyze and Mitigate the Project's Impacts on Grassland Birds**

The DEIR states that four special-status (grassland) bird species (burrowing owl, short-eared owl, white-tailed kite, and northern harrier) could occur at the Project site. However, the DEIR concludes that the loss of grassland habitat as a result of the Project would not adversely affect these species. The DEIR's conclusion is based on the following unsupported statements:

Non-native grassland provides marginal foraging habitat for some species including white-tailed kite, burrowing owl, and northern harrier. The project site represents a small portion of the non-native grassland habitat available to these species along the shores of the San Pablo Bay and San Rafael Bay and inland. The permanent loss of the marginal non-native grassland habitat within the project site represents poor quality raptor foraging habitat and is a small and non-significant percentage of all suitable foraging habitat present within the broader San Francisco Bay region. Furthermore, based on the limited observations of burrowing owl, northern harrier, short-eared owl and white-tailed kite within the vicinity of the project site over the last five years, the loss of habitat on the project site is unlikely to adversely affect regional population numbers or contribute towards a trend to federal or state listing, or to the loss of viability to any special status population or species.<sup>88</sup>

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<sup>87</sup> *Id.*, p. 9.

<sup>88</sup> DEIR, p. 4.1-24 (internal citation omitted).

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In his comments, Mr. Cashen provides three reasons why the DEIR's conclusion and statements regarding grassland habitat are unsupported. First, there is no evidence that the Project site "represents a small portion of the non-native grassland habitat available to these [grassland] species along the shores of the San Pablo Bay and San Rafael Bay and inland." However, Figure 1 in Mr. Cashen's comments shows that most grassland habitat that previously occurred around San Pablo Bay (including San Rafael Bay) has been lost to urban development.<sup>89</sup> According to Mr. Cashen, "[t]he loss of grassland habitat in the San Francisco Bay Area has had, and continues to have, a significant effect on grassland bird species. Indeed, grassland birds in the Bay Area have declined by over 45% since 1968, which is considerably more than birds in any other habitat guild."<sup>90</sup> Thus, the Project site may very well represent a great deal more than just "a small portion of the non-native grassland habitat available to these [grassland] species..."

Second, there is no support for the DEIR's statement that the site "represents poor quality raptor foraging habitat" or that it is "a small and non-significant percentage of all suitable foraging habitat present within the broader San Francisco Bay region." MCE's consultant conducted zero studies to quantify the prey base for raptors at the Project site.

Finally, there is no support for the DEIR's reasoning that "based on the limited observations of burrowing owl, northern harrier, short-eared owl and white-tailed kite within the vicinity of the project site over the last five years, the loss of habitat on the project site is unlikely to adversely affect regional population numbers or contribute towards a trend to federal or state listing, or to the loss of viability to any special status population or species." Mr. Cashen explains that, "[i]f the patches of habitats remaining in the Project region can support only a few birds (e.g., burrowing owls), then the loss of even one habitat patch could have significant implications on regional population numbers and viability."<sup>91</sup> Mr. Cashen provides burrowing owls as an example. He explains that burrowing owls have been extirpated or nearly extirpated from western Contra Costa County due to habitat loss from commercial and residential development.<sup>92</sup> Consequently, according to

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<sup>89</sup> Cashen Comments, p. 9.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*, p. 10.

<sup>92</sup> *Id.*

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Mr. Cashen, “the loss of occupied burrowing owl habitat at the Project site would undoubtedly affect regional population numbers and contribute to a trend towards federal or state listing.”<sup>93</sup>

The DEIR’s conclusion that the loss of grassland habitat from the Project would not adversely affect four special-status (grassland) bird species is unsupported. MCE must prepare a revised DEIR that provides an adequate analysis, supported by substantial evidence, of the Project’s potentially significant impact to grassland birds from the loss of grassland habitat.

**D. The DEIR Fails to Adequately Analyze and Mitigate the Project’s Impacts on Birds from Collision Hazard**

Data shows that birds mistake the broad reflective surfaces of solar arrays for water, trees and other attractive habitat.<sup>94</sup> As a result, birds tend to collide with solar arrays and die or become injured and stranded. A recent study shows that solar facilities kill a greater number of waterbirds than other birds because the waterbirds mistake PV arrays for a water body. In addition, data shows that PV panels produce polarized light pollution that attracts insects and, in turn, attracts insect-eating birds.<sup>95</sup> The DEIR completely fails to analyze the Project’s potentially significant impacts on birds from collision with the PV panels.

The DEIR’s failure is particularly concerning because the Project site is located along the Pacific Flyway. It is approximately one mile from San Francisco Bay and immediately adjacent to several ponds and marshes. Mr. Cashen explains the importance of the Project region for birds. San Francisco Bay is a Western Hemisphere Shorebird Reserve Network Site of Hemispheric Importance for shorebirds, which is the highest possible ranking. It is one of the most important wetland sites along the Pacific coast for waterbirds. In addition, tidal marsh and upland habitat support large populations of landbirds around the San Francisco Bay.<sup>96</sup> Due to the Project’s location in relation to San Francisco Bay and other aquatic habitat, it is Mr. Cashen’s expert opinion that “there is a heightened risk

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<sup>93</sup> *Id.*

<sup>94</sup> *Id.*, p. 12.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*, pp. 12-13.

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that birds will mistake the Project's solar arrays for water, resulting in bird strikes and entrapment."<sup>97</sup>

Mr. Cashen explains that there are feasible measures to facilitate avoidance of bird collisions, such as UV-reflective or solid contrasting bands on arrays with a maximum spacing of 28 cm.<sup>98</sup> MCE must require these feasible measures to reduce the Project's impacts on birds to a less than significant level. In addition, Mr. Cashen recommends that MCE implement a monitoring, reporting and adaptive management plan during Project construction and the first three years of operation (at a minimum).<sup>99</sup> Importantly, the plan should be included in a revised DEIR and, because many of the birds that would be impacted by the Project are federally protected (either under the Migratory Bird Treaty Act or the Endangered Species Act), should be approved by the U.S. Fish and Wildlife Service ("USFWS"). Further, because the Project site is located close to a relatively dense population of Ridgway's rails, it is Mr. Cashen's opinion that the Project will likely cause incidental take of the Ridgway rail.<sup>100</sup> Thus, MCE must apply for an incidental take permit from the USFWS.

The DEIR completely fails to analyze the potential for the Project to kill and injure birds from collision with the PV panels. MCE must prepare a revised DEIR that discloses and analyzes the Project's potentially significant impacts on birds associated with constructing a PV power plant in an area that is heavily populated by birds, including numerous listed species.

**E. The DEIR Fails to Adequately Mitigate the Project's Potentially Significant Impacts on Nesting Birds**

The DEIR states that MCE will conduct pre-construction surveys for nesting birds within 500 feet of Project disturbance areas.<sup>101</sup> But the DEIR does not establish minimum standards for the survey effort, including a requirement to adhere to scientific standards for nest site detection. Therefore, there is no evidence that the pre-construction surveys would be sufficient to reduce the Project's impacts on nesting birds to a less than significant level.

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<sup>97</sup> *Id.*, p. 13.

<sup>98</sup> *Id.*, p. 17.

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> DEIR, p. 4.1-24.

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Mr. Cashen explains that nest finding is labor intensive and can be extremely difficult because many species construct well-concealed or camouflaged nests.<sup>102</sup> Most studies that involve locating bird nests employ several search techniques.<sup>103</sup> There is a strong positive correlation between survey effort and abundance of nests detected. Moreover, Mr. Cashen explains that “several of the bird species that have the potential to nest within 500 feet of the Project site are extremely difficult to detect,” such as the Ridgway’s rail.<sup>104</sup> Therefore, the DEIR must specify the techniques to be used for nest surveys, the expected level of effort (i.e., hours per unit area), the search area, the time of day surveys will be permitted, and the techniques that should be used to minimize human-induced disturbance.

**F. The DEIR Fails to Adequately Analyze or Mitigate the Project’s Potentially Significant Impacts on Special-Status Mammals**

The DEIR fails to adequately analyze or mitigate the Project’s potentially significant impact on special-status mammals, including the salt-marsh harvest mouse and San Pablo vole. As explained above, evidence shows that the Project site provides dispersal habitat for these species. Despite this evidence, the DEIR completely fails to analyze the Project’s impacts on these species. Consequently, the DEIR contains no measures to mitigate the Project’s impacts on special-status mammal species to a less than significant level. Mr. Cashen recommends feasible measure, including clearance surveys, installation of a barrier fence, biological monitoring during construction and compensatory mitigation. In addition, because the Project could significantly affect the salt-marsh harvest mouse, a federally and State listed endangered species, MCE must consult with the USFWS and CDFW to determine measures needed to comply with the federal Endangered Species Act, the California Endangered Species Act and section 4700 of the Fish and Game Code.

**G. The DEIR Fails to Analyze or Mitigate the Project’s Potentially Significant Impacts from the Spread of Non-native Plants**

In his comments, Mr. Cashen explains that it is well settled that construction and other ground disturbance activities promote the establishment and/or spread of

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<sup>102</sup> Cashen Comments, p. 14.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

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non-native plants both on and off-site.<sup>105</sup> Non-native plants can displace native (and perhaps sensitive) plant species and degrade wildlife habitat by eliminating food sources, cover and breeding sites.<sup>106</sup> The DEIR completely fails to disclose, analyze or mitigate these significant impacts.

**VI. THE DEIR FAILS TO DISCLOSE, EVALUATE AND MITIGATE ALL POTENTIALLY SIGNIFICANT IMPACTS TO WATER QUALITY AND PUBLIC HEALTH FROM HAZARDOUS MATERIALS PRESENT ON THE PROJECT SITE**

The Project site is located on a former landfill (Landfill 15) and fertilizer plant. The landfill received a variety of wastes, including sludges, oily soils and dredge spoils, resins, catalyst fines, lime and sulfur.<sup>107</sup> Soil contaminants on the landfill site include residual waste chemicals, such as volatile organic compounds, semi-volatile organic compounds, heavy metals and petroleum hydrocarbons.<sup>108</sup> The fertilizer plant was used for nitrogen-based fertilizer manufacturing.<sup>109</sup> Soil contaminants on the fertilizer plant site include residual metals, such as arsenic, beryllium, cadmium and cobalt,<sup>110</sup> and ammonia, nitrate, arsenic, lead, chlordane, lindane, DDD, DDE, DDT, trans-1,2dichloroethene and trichloroethene.<sup>111</sup> Substantial evidence shows that the Project's placement of PV panels on the former landfill and fertilizer plant may significantly impact water quality and public health from the release of these soil contaminants. The DEIR fails to adequately disclose, analyze and mitigate these significant impacts.

**A. The DEIR Fails to Disclose, Analyze and Mitigate Impacts from Differential Settlement Potential at Landfill 15 Cap**

The Project includes placement of PV panels on Landfill 15. Landfill 15 has a cap made of fill and a polyethylene liner or geomembrane, with a vegetated and

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<sup>105</sup> *Id.*, p. 18.

<sup>106</sup> *Id.*

<sup>107</sup> DEIR, p. 4.2-1.

<sup>108</sup> Attachment B: Letter from Matt Hagemann to Rachael Koss re Comments on the Richmond Solar PV Project, September 12, 2015 ("Hagemann Comments"), p.2; *see also* Attachment C: Dames & Moore, Landfill 15 Closure Certification Report, April 14, 1998.

<sup>109</sup> DEIR, p. 4.2-1.

<sup>110</sup> *Id.*, p. 4.2-2.

<sup>111</sup> Attachment D: Regional Water Quality Control Board Staff Summary Report, June 10, 2015, p. 4.



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asphalt cover.<sup>112</sup> The cap was created to promote evapotranspiration of precipitation and to isolate underlying wastes from infiltrating water. The underlying landfill wastes include sludges, oily soil and dredge spoils, resins, catalyst fines, lime and sulfur.<sup>113</sup> As described more fully below, it is hazardous materials expert Matt Hagemann's opinion that, due to soft soils that may be present in the waste fill, placement of the Project's PV panels on Landfill 15 may cause differential settlement and compromise the integrity of the cap.<sup>114</sup> This, in turn, could contaminate groundwater and the San Pablo Bay.<sup>115</sup> The DEIR fails to adequately disclose, analyze and mitigate the Project's significant water quality impacts from differential settlement.

According to Appendix B to the DEIR, Landfill 15 has already settled more than a foot and the estimated lifetime settlement of Landfill 15 is 3.2 feet.<sup>116</sup> Further, "settlement is likely to continue, especially if additional material is placed on the cap."<sup>117</sup> Soft soils may be present in the waste fill and differential settlement could affect the liner.<sup>118</sup>

In his comments, Mr. Hagemann explains that "infiltration of water through a landfill cap will increase the generation of landfill leachate, potentially mobilizing contamination that could move offsite in groundwater."<sup>119</sup> Chemical components of Landfill 15 wastes, including volatile organic compounds, semi-volatile organic compounds, heavy metals and petroleum hydrocarbons, "may dissolve into groundwater and become mobile. If mobilized, the contaminated groundwater may move toward and enter the adjacent San Pablo Bay, a water body that is listed as impaired by the San Francisco Bay Regional Water Quality Control Board under the Clean Water Act, Section 303(d) for pesticides, dioxins and furans, and mercury."<sup>120</sup> Mr. Hagemann notes that other proposals to develop utility scale solar projects on landfills have been rejected. For example, Stanislaus County found that

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<sup>112</sup> ARCADIS, 2012. Landfill 15 Solar Array Installation – Engineering and Regulator Evaluation Presentation.

<sup>113</sup> *Id.*

<sup>114</sup> Hagemann Comments, p.2.

<sup>115</sup> *Id.*

<sup>116</sup> DEIR, Appendix B, p. 5.

<sup>117</sup> *Id.*

<sup>118</sup> Hagemann Comments, pp. 2-3 (referencing ARCADIS, 2012. Landfill 15 Solar Array Installation – Engineering and Regulatory Evaluation Presentation).

<sup>119</sup> *Id.*, p. 2.

<sup>120</sup> *Id.*

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a landfill being considered for construction of the McHenry Solar Farm “would not be suitable for a utility-scale solar project due to differential settling of the landfill and construction restrictions on the landfill cap.”<sup>121</sup>

Appendix B to the DEIR acknowledges that an “updated settlement evaluation will be necessary considering the increased loading due to placement of backfill and solar arrays on site.”<sup>122</sup> Despite this, the DEIR provides no analysis of water quality impacts from differential settlement at Landfill 15. The DEIR provides no information on the ability of the liner to handle the significant weight of the PV panels and their ballasted footings.

DEIR mitigation measure HAZ-1(a) requires the applicant to provide, prior to issuance of building permits, parameters “to assure that the solar project would not reduce the effectiveness of the remediation measures currently implemented in the solar site area.”<sup>123</sup> This measure fails to satisfy CEQA because it defers evaluation and mitigation of the Project’s potentially significant impacts, including impacts on water quality and from hazards, from differential settlement until after Project approval. MCE must prepare a revised DEIR that analyzes differential settlement and mitigates significant impacts, including those on water quality and from hazards from settlement of the landfill cap. Mr. Hagemann recommends that the evaluation consider the potential to encounter soft soils during construction and include the loads of the construction equipment and solar panel infrastructure that would be placed on the cap.<sup>124</sup> Mr. Hagemann also recommends feasible measures to ensure that differential settlement does not affect the cap, including: (1) a survey, to be conducted once per year, to measure any settlement that is occurring; and (2) a thorough visual inspection of the landfill cap, once per year, to ensure any settlement has not caused a breach of the cap that would allow for percolation of runoff in the area of the array.<sup>125</sup>

The DEIR fails to evaluate and improperly defers assessment of the Project’s foreseeable potential to cause differential settlement and the Project’s significant impacts from differential settlement. As a result, the DEIR fails to identify feasible mitigation measures to reduce the Project’s impacts to less than significant.

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<sup>121</sup> *Id.*, p. 3.

<sup>122</sup> DEIR, Appendix B, p. 5.

<sup>123</sup> DEIR, p. 4.2-10.

<sup>124</sup> Hagemann Comments, p. 3.

<sup>125</sup> *Id.*

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**B. The DEIR Fails to Disclose, Analyze and Mitigate Water Quality Impacts from Increased Runoff and Erosion of the Landfill Cap**

The DEIR states that “[t]he project is not anticipated to substantially affect runoff since the proposed project includes minimal changes in existing natural landforms, ongoing vegetation maintenance efforts during construction and operation, and limited areas of compaction.”<sup>126</sup> This statement is unsupported. On the contrary, substantial evidence shows that the Project may cause significant water quality impacts from increased runoff and erosion of the cap.

First, the ARCADIS report referenced in Appendix B of the DEIR states that “new relatively impervious surfaces [such as solar panels] will cause an increased rate of runoff discharge during storm events.”<sup>127</sup>

Second, Mr. Hagemann explains that “just 12 inches of soil (including 6 inches of ‘random fill’ [ ]) overlies an impermeable or relatively impermeable plastic membrane in areas of the Landfill 15 cap. Given the uncertain engineering properties of ‘top soil’ and ‘random fill’ and shallowness of these materials, [the DEIR’s] conclusion is unsupported.”<sup>128</sup> A revised DEIR must include information on the infiltration capacity of these materials, including measurements of porosity and permeability.

Third, the DEIR acknowledges that “it is anticipated that the ‘drip line’ effect of the modules, where surface runoff in direct response to precipitation events would be concentrated along the lowest edge of PV module installations, could cause localized increases in erosion.”<sup>129</sup> However, the DEIR fails to address how “localized increases in erosion” might impact Landfill 15’s soil/random fill layer or the stability of the underlying plastic membrane. According to Mr. Hagemann, erosion of cap soils would limit the growth of vegetation on the cap, resulting in limited potential for evapotranspiration.<sup>130</sup> Erosion of cap soils could also directly expose the plastic membrane to sunlight, causing UV-degradation and the potential for

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<sup>126</sup> DEIR, p. 4.3-10.

<sup>127</sup> ARCADIS, 2012. Landfill 15 Solar Array Installation – Engineering and Regulator Evaluation Presentation as referenced in the DEIR, p. 7-1

<sup>128</sup> Hagemann Comments, p. 4.

<sup>129</sup> DEIR, p. 4.3-10.

<sup>130</sup> Hagemann Comments, p. 4.

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leakage.<sup>131</sup> An increase in leakage would cause greater infiltration, generating additional leachate which may lead to migration of contaminants offsite via groundwater.<sup>132</sup>

The DEIR fails to disclose, analyze or mitigate the Project's potentially significant water quality and hazard impacts from increased runoff and erosion of the landfill cap. The DEIR must be revised accordingly and circulated for public review and comment.

**C. The DEIR Fails to Disclose, Analyze and Mitigate Water Quality, Biological and Public Health Impacts from Pile Driving on the Fertilizer Ponds**

The Project includes construction of a pole-mounted solar array in the area of the former fertilizer ponds. Pole-mounting requires the use of pile driving. In Mr. Hagemann's opinion, this could mobilize contaminants, exposing people and aquatic organisms to toxic compounds, including arsenic, beryllium, cadmium, and cobalt. The DEIR fails to disclose, analyze or mitigate the Project's water quality, biological and public health impacts from pile driving on the fertilizer ponds.

The DEIR claims that "the likelihood that construction workers or operational staff could be exposed to residual chemicals in on-site soils is minor" because the "area contains clean, compacted fill."<sup>133</sup> However, the depth of fill on the fertilizer ponds is unknown. In fact, there is no evidence of any fill (or any cover, liner or cap) on the fertilizer pond.<sup>134</sup> Therefore, the DEIR's claim is unsupported.

On the contrary, substantial evidence shows that pile driving on the fertilizer ponds may expose people, water and aquatic organisms to toxic compounds. Mr. Hagemann explains that:

driving piles into a layer of material of unknown thickness and unknown permeability may create conduits through which water may infiltrate and

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<sup>131</sup> *Id.*

<sup>132</sup> *Id.*

<sup>133</sup> DEIR, p. 4.2-9.

<sup>134</sup> Hagemann Comments, p. 5.

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move down to contact underlying contaminants. The underlying contaminants may be mobilized in this process to move with groundwater offsite and eventually toward San Pablo Bay, which is listed by the San Francisco Bay Regional Water Quality Control Board as an impaired water body.<sup>135</sup>

Mr. Hagemann recommends that an engineering evaluation of the material that covers the former fertilizer ponds be performed to assess the impacts from the Project's construction. According to Mr. Hagemann, the evaluation should include measurements of the thicknesses and permeability of the material and the integrity of the material as a barrier to infiltration.<sup>136</sup> In addition, the evaluation should determine the potential for the pole mounted supports to act as hydraulic conduits for downward infiltration into soil and mobilization of underlying contaminants.<sup>137</sup> Finally, Mr. Hagemann recommends that MCE evaluate construction worker health and safety implications from driving piles into underlying contaminants. Without this assessment, the DEIR's evaluation of the Project's impacts on public health and the environment is incomplete in violation of CEQA.

## VII. THE DEIR FAILS TO DISCLOSE THE PROJECT'S INCONSISTENCIES WITH THE CITY OF RICHMOND'S GENERAL PLAN

Under California law, a general plan serves as a "charter for future development"<sup>138</sup> and embodies "fundamental land use decisions that guide the future growth and development of cities and counties."<sup>139</sup> The general plan has been aptly described as "the constitution for all future developments" within a city or county.<sup>140</sup> Further, the "propriety of virtually any local decision affecting land use and development depends upon consistency with the applicable general plan and its elements."<sup>141</sup> The consistency doctrine has been described as the "linchpin

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<sup>135</sup> *Id.*, p. 6.

<sup>136</sup> *Id.*

<sup>137</sup> *Id.*

<sup>138</sup> *Leshar Communications, Inc. v. City of Walnut Creek* (1990) 52 Cal.3d 531, 54.

<sup>139</sup> *City of Santa Ana v. City of Garden Grove* (1979) 100 Cal.App.3d 521, 532.

<sup>140</sup> *Families Unafraid to Uphold Rural El Dorado County v. Board of Supervisors of El Dorado County* (1998) 62 Cal.App.4th 1334, 1335.

<sup>141</sup> *Citizens of Goleta Valley v. Board of Supervisors of County of Santa Barbara* (1990) 52 Cal.3d 553, 570.

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of California's land use and development laws; it is the principle which infuses the concept of planned growth with the force of law."<sup>142</sup>

The DEIR fails to acknowledge the Project's conflicts with a number of the City of Richmond's General Plan goals and policies. These goals and policies were adopted for the purpose of avoiding or mitigating environmental impacts.<sup>143</sup> Therefore, these inconsistencies are significant environmental impacts. MCE must revisit the DEIR's General Plan consistency analysis and must disclose and mitigate any inconsistencies in a revised DEIR that is circulated for public review and comment. The following are examples of these inconsistencies:

**A. The Project is Inconsistent with Goal CN3 and Policy CN3.2 -- Water Quality**

The purpose of Goal CN3 and Policy CN3.2 is to protect, maintain and improve water quality and the overall health of the watershed.<sup>144</sup> The Project is inconsistent with this goal and policy because, as described above, the Project may contaminate groundwater and the San Pablo Bay from placing PV panels on Landfill 15 and the former fertilizer ponds.

**B. The Project is Inconsistent with Policy CN1.1 -- Habitat and Biological Resources Protection and Restoration**

Policy CN1.1 states,

[a]t a minimum, require mitigation of impacts to sensitive species ensuring that a project does not contribute to the decline of the affected species populations in the region. Identify mitigations in coordination with the U.S. Fish and Wildlife service, the California Department of Fish and Game [now CDFW] and other regulatory agencies.<sup>145</sup>

There is no evidence that MCE has coordinated with the USFWS or CDFW to formulate appropriate mitigation for the Project. On the contrary, several

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<sup>142</sup> *Corona-Norco Unified School District v. City of Corona* (1993) 17 Cal.App.4th 985, 994.

<sup>143</sup> CEQA Guidelines §X(b).

<sup>144</sup> City of Richmond General Plan, Goal CN3 and Policy CN3.2.

<sup>145</sup> City of Richmond General Plan, Policy CN1.1.

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discrepancies between the mitigation measures proposed in the DEIR and those promulgated by the USFWS and CDFW suggest a lack of coordination with the resource agencies. For example, MCE's surveys did not adhere to the USFWS and CDFW survey protocols for rare plants, burrowing owls or Ridgway's rail. The DEIR also fails to incorporate mitigation for potentially significant impacts from avian collisions with solar arrays. In addition, the DEIR fails to require consultation for potentially significant impacts to listed species. Finally, the burrowing owl mitigation proposed in the DEIR fails to adhere to CDFW mitigation guidelines.

In sum, the DEIR fails to identify and mitigate significant impacts due to the Project's inconsistencies with General Plan goals and policies that were adopted for the purpose of avoiding or mitigating environmental impacts.

#### VIII. CONCLUSION

The DEIR fails to adequately describe the Project or the existing setting, and fails to disclose, analyze and mitigate numerous significant impacts from the Project. Therefore, the DEIR fails to comply with CEQA. The DEIR also fails to disclose the Project's inconsistencies with the City of Richmond's General Plan. MCE cannot approve the Project until it prepares a revised DEIR that resolves these issues and satisfies CEQA's requirements.

Sincerely,



Rachael Koss

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Attachments

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