



State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



December 15, 2022

Mr. Justin Meek  
City of Watsonville, Community Development Department  
250 Main Street  
Watsonville, CA 95076  
[Justin.meek@cityofwatsonville.org](mailto:Justin.meek@cityofwatsonville.org)

Subject: Downtown Watsonville Specific Plan, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2022100602, Santa Cruz County

Dear Mr. Meek:

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) of a draft Environmental Impact Report (DEIR) from the City of Watsonville (City) for the Downtown Watsonville Specific Plan (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup>

CDFW is providing the City, as the lead agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the DEIR (Cal. Code Regs., tit.14, § 15082, subd (b)).

### CDFW ROLE

CDFW is a **Trustee Agency** with responsibility under CEQA pursuant to CEQA Guidelines § 15386 for commenting on projects that could impact fish, plant, and wildlife resources. CDFW is also considered a **Responsible Agency** if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA) or Native Plant Protection Act (NPPA), the Lake and Streambed Alteration (LSA) Program, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources.

### PROJECT DESCRIPTION AND LOCATION

The Downtown Watsonville Specific Plan (DWSP), within the City's General Plan, would help the City of Watsonville achieve its objective of incorporating higher density commercial and housing opportunities by accommodating residential uses in a compact and active mixed-use environment through both new construction and adaptive reuse of historic or existing buildings. The Project would provide a land use and mobility plan along with development and design regulations to guide future public and private

<sup>1</sup> CEQA is codified in the California Public Resources Code in Section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with Section 15000.

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 2 of 15

development projects in the downtown area of Watsonville. The Project would incorporate the following: 1) addition of up to 3,886 new residential units; 2) 231,151 square feet of commercial development; 3) 376,827 square feet of industrial development; 4) 114,572 square feet of civic space within the downtown area over the next 25 years; and 5) provision of multi-modal transportation options in the downtown area, such as vehicle, transit, bicycle, and pedestrian mode options. It includes design concepts for downtown streets, as well as bicycle and pedestrian network improvements.

The Project is located in Downtown Watsonville in the southern area of Santa Cruz County and covers roughly 195.5 acres, with about 55.5 acres dedicated to streets and right-of-way. Downtown is centered on Main Street and extends west to the edge of existing neighborhoods and the industrial district, south to the Pajaro River, and several blocks east to the existing neighborhoods. State Route (SR) 152 runs through the center of the plan area and operates along portions of Main Street and as a one-way couplet along E Lake Avenue and E Beach Street. Riverside Drive on the south end of the plan area is a part of SR 129. One of the major intersections within the plan area is the intersection of Main Street and SR 129.

The CEQA Guidelines require that the DEIR incorporate a full project description, including reasonably foreseeable future phases of the Project, that contains sufficient information to evaluate and review the Project's environmental impact (CEQA Guidelines, §§ 15124 & 15378). Please include a complete description of the following Project components in the Project description, as applicable:

- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes.
- Area and plans for any proposed buildings/structures, ground disturbing activities, fencing, paving, stationary machinery, landscaping, and stormwater systems.
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features.
- Construction schedule, activities, equipment, and crew sizes.

## **REGULATORY REQUIREMENTS**

### **California Endangered Species Act and Native Plant Protection Act**

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in take<sup>2</sup> of plants or animals listed under CESA or

---

<sup>2</sup> Take is defined in Fish and Game Code section 86 as hunt, pursue, catch, capture, or kill, or attempt any of those activities.

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 3 of 15

NPPA, either during construction or over the life of the Project. If the Project will impact CESA or NPPA listed species, including but not limited to those identified in **Attachment 1: Special-Status Species from the CNDDDB within a 5-mile Radius of the Project Site**, early consultation with CDFW is encouraged, as significant modification to the Project and mitigation measures may be required to obtain an ITP. Issuance of an ITP is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program.

CEQA requires a Mandatory Finding of Significance if a Project is likely to substantially restrict the range or reduce the population of a threatened or endangered species (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, & 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The Lead Agency's FOC does not eliminate the Project proponent's obligation to comply with CESA.

### **Lake and Streambed Alteration**

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et seq., for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank (including associated riparian or wetland resources); or deposit or dispose of material where it may pass into a river, lake, or stream. Work within ephemeral streams, drainage ditches, washes, watercourses with a subsurface flow, and floodplains are generally subject to notification requirements. In addition, infrastructure installed beneath such aquatic features, such as through hydraulic directional drilling, is also generally subject to notification requirements. **The Project site is adjacent to the Pajaro River. Any impacts to Pajaro River or associated riparian habitat would likely require an LSA Notification.** CDFW, as a responsible agency under CEQA, will consider the EIR for the Project. CDFW may not execute a final LSA Agreement until it has complied with CEQA as the responsible agency.

### **Nesting Birds**

CDFW has authority over actions that may disturb or destroy active nest sites or take birds. Fish and Game Code sections 3503, 3503.5, and 3513 protect birds, their eggs, and nests. Migratory birds are also protected under the federal Migratory Bird Treaty Act.

### **Fully Protected Species**

Fully Protected species, including those listed in **Attachment 1**, may not be taken or possessed at any time (Fish & G. Code, §§ 3511, 4700, 5050, & 5515).

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 4 of 15

## ENVIRONMENTAL SETTING

A site-specific analysis prepared by a qualified biologist should provide sufficient information regarding the environmental setting (“baseline”) to understand the Project’s, and its alternative’s (if applicable), potentially significant impacts on the environment (CEQA Guidelines, §§ 15125 & 15360).

CDFW recommends that a site-specific analysis provide baseline habitat assessments for special-status plant, fish, and wildlife species located and potentially located within the Project area and surrounding lands, including but not limited to all rare, threatened, or endangered species (CEQA Guidelines, § 15380). These documents should describe aquatic habitats, such as wetlands, vernal pools, and/or waters of the U.S. or State, and any sensitive natural communities<sup>3</sup> or riparian habitat occurring on or adjacent to the Project site, and any stream or wetland set back distances the City or county may require. Fully protected, threatened or endangered, and other special-status species and sensitive natural communities that are known to occur, or have the potential to occur in or near the Project area, include but are not limited to, those listed in **Attachment 1**.

Habitat descriptions and the potential for species occurrence should include information from multiple sources, such as aerial imagery; historical and recent survey data; field reconnaissance; scientific literature and reports; the U.S. Fish and Wildlife Service’s (USFWS) Information, Planning, and Consultation System; findings from positive occurrence databases such as the California Natural Diversity Database (CNDDDB); the California Aquatic Resource Inventory (CARI); and sensitive natural community information available through the Vegetation Classification and Mapping Program (VegCAMP). Based on the data and information from the habitat assessment, site-specific analysis should adequately assess which special-status species are likely to occur on or near the Project site, and whether they could be impacted by the Project.

CDFW recommends that prior to Project implementation, surveys be conducted for special-status species with potential to occur, following recommended survey protocols<sup>4</sup> if available.

Botanical surveys<sup>5</sup> for special-status plant species, including those with a California Rare Plant Rank<sup>6</sup>, must be conducted during the appropriate season, including the blooming period for all species potentially impacted by the Project within the Project area and adjacent habitats that may be indirectly impacted by, for example, changes to

---

<sup>3</sup> For sensitive natural communities see <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities>

<sup>4</sup> Survey and monitoring protocols and guidelines are available at <https://wildlife.ca.gov/Conservation/Survey-Protocols>.

<sup>5</sup> Please refer to CDFW protocols for surveying and evaluating impacts to rare plants, and survey report requirements at <https://wildlife.ca.gov/Conservation/Plants>

<sup>6</sup> <http://www.cnps.org/cnps/rareplants/inventory/>

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 5 of 15

hydrology, and require the identification of reference populations. More than one year of surveys may be necessary given environmental conditions.

## **IMPACT ANALYSIS AND MITIGATION MEASURES**

A site-specific analysis should discuss all direct and indirect impacts (temporary and permanent), including reasonably foreseeable impacts, that may occur with implementation of the Project (CEQA Guidelines, §§ 15126, 15126.2, & 15358). This includes evaluating and describing impacts such as:

- Encroachments into riparian habitats, drainage ditches, wetlands, or other sensitive areas.
- Potential for impacts to special-status species or sensitive natural communities.
- Loss or modification of breeding, nesting, dispersal, and foraging habitat, including vegetation removal, alteration of soils and hydrology, and removal of habitat structural features (e.g., snags, rock outcrops, overhanging banks).
- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic, or human presence.
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.

A site-specific analysis should also identify reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to the impact (CEQA Guidelines, § 15355). Although a project's impacts may be less-than-significant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact, e.g., reduction of habitat for a special-status species, should be considered cumulatively considerable.

Based on the comprehensive analysis of the direct, indirect, and cumulative impacts of the Project, the CEQA Guidelines direct the Lead Agency to consider and describe all feasible mitigation measures to avoid potentially significant impacts in the DEIR, which CDFW recommends is supported by a site-specific analysis, and mitigate potentially significant impacts of the Project on the environment (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.4 & 15370). This includes a discussion of impact avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with CDFW, USFWS, and the National Marine Fisheries Service. Project-specific measures should be incorporated as enforceable Project conditions to reduce impacts to biological resources to less-than-significant levels.

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 6 of 15

Fully protected species such as those listed in **Attachment 1**, may not be taken or possessed at any time (Fish & G. Code, §§ 3511, 4700, 5050, & 5515). Therefore, the DEIR supported by a site-specific analysis should include measures to ensure complete avoidance of these species.

## **COMMENTS AND RECOMMENDATIONS**

CDFW offers the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on biological resources.

### **COMMENT 1: Riparian Setbacks**

**Issue:** The Project has the potential to encroach into the riparian zone from development of new buildings and infrastructure near the Pajaro River. Encroachment in the riparian zone can negatively impact sensitive riparian species and can lead to increased pollutants and deleterious materials entering the stream.

**Evidence the impact would be significant:** Riparian trees and vegetation, and associated floodplains, provide many essential benefits to stream and aquatic species habitat (Moyle 2002, CDFW 2007), including thermal protection, cover, and large woody debris. Development adjacent to the riparian zone can result in fragmentation of riparian habitat and decreases in native species abundance and biodiversity (Davies et al. 2001, Hansen et al. 2005, CDFW 2007). An estimated 2 to 7 percent of California's riparian habitat remains intact and has not been converted to other land uses (Katibah 1984, Dawdy 1989). Riparian buffers help keep pollutants from entering adjacent waters through a combination of processes including dilution, sequestration by plants and microbes, biodegradation, chemical degradation, volatilization, and entrapment within soil particles. Narrow riparian buffers are considerably less effective in minimizing the effects of adjacent development than wider buffers (Castelle et al. 1992, Brosofske et al. 1997, Dong et al. 1998, Kiffney et al. 2003, Moore et al. 2005).

**Recommendation:** CDFW recommends the Project establish and the DEIR incorporate riparian buffer zones to limit development and vegetation clearing to outside of and away from riparian areas. CDFW is available to consult with the City to determine appropriate site-specific riparian buffers to reduce impacts to sensitive species and riparian habitat to less-than-significant.

### **COMMENT 2: Impervious surfaces**

**Issue:** The Project could increase impervious surfaces at the Project site with the addition of roads and buildings. Impervious surfaces, stormwater systems, and storm drain outfalls have the potential to significantly affect fish and wildlife resources by altering the hydrograph of natural streamflow patterns via concentrated run-off.

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 7 of 15

**Evidence the impact would be significant:** Urbanization (e.g., impervious surfaces, stormwater systems, storm drain outfalls) can modify natural streamflow patterns by increasing the magnitude and frequency of high flow events and storm flows (Hollis 1975, Konrad and Booth 2005).

**Recommendations to minimize significant impacts:** CDFW recommends that storm runoff be dispersed rather than concentrated to a stormwater outfall or other receiving waters. CDFW recommends implementation of low impact development (LID) and the use of bioswales and bioretention features to intercept storm runoff. CDFW also recommends incorporating permeable surfaces throughout the Project to allow stormwater to percolate in the ground and prevent stream hydromodification (see [https://www.usgs.gov/science/evaluating-potential-benefits-permeable-pavement-quantity-and-quality-stormwater-runoff?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/science/evaluating-potential-benefits-permeable-pavement-quantity-and-quality-stormwater-runoff?qt-science_center_objects=0#qt-science_center_objects)).

### **COMMENT 3: Artificial Lighting**

**Issue:** The Project has the potential to increase artificial lighting from the addition of buildings and other development. Artificial lighting often results in light pollution, which has the potential to significantly and adversely affect fish and wildlife.

**Evidence the impact would be significant:** Night lighting can disrupt the circadian rhythms of wildlife species. Many species use photoperiod cues for communication such as bird song (Miller, 2006), determining when to begin foraging (Stone et al., 2009), behavior thermoregulation (Beiswenger, 1977), and migration (Longcore and Rich, 2004).

**Recommendations to minimize significant impacts:** CDFW recommends eliminating all non-essential artificial lighting. If artificial lighting is necessary, CDFW recommends avoiding or limiting the use of artificial lights during the hours of dawn and dusk, when many wildlife species are most active. CDFW also recommends that outdoor lighting be shielded, cast downward, and does not spill over onto other properties or upwards into the night sky (see the International Dark-Sky Association standards at <http://darksky.org/>) and limited to warm light colors with an output temperature of 2700 kelvin or less.

### **COMMENT 4: Noise**

**Issue:** Site operations may result in a substantial amount of noise through road use, construction equipment, and other Project-related activities. This may adversely affect nesting birds and other wildlife species in several ways as wildlife responses to noise can occur at exposure levels of only 55-60 dB (Barber et al. 2009). (For reference, normal conversation is approximately 60 dB, and natural ambient noise levels are generally measured at less than 50dB.)

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 8 of 15

**Evidence the impact would be significant:** Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats (Sun and Narins 2005, Patricelli and Blickley 2006, Gillam and McCracken 2007, Slabbekoorn and Ripmeester 2008). Noise can also affect predator-prey relationships as many nocturnal animals such as bats and owls primarily use auditory cues (i.e., hearing) to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise (Rabin et al. 2006, Quinn et al. 2017). Noise has also been shown to reduce the density of nesting birds (Francis et al. 2009) and cause increased stress that results in decreased immune responses (Kight and Swaddle 2011).

**Recommended Measure 1:** CDFW recommends including the following work restriction measure to restrict use of equipment to hours least likely to disrupt wildlife:

1. Work shall be restricted to daylight hours, one hour after sunrise to sunset.

**Recommended Measure 2:** CDFW recommends including the following Measures, if Project activities might occur during nesting bird season:

1. *Nesting Birds.* If Project activities will occur during nesting bird season (February 15 to September 15 for raptors; March 15 to August 30 for non-raptors), the Qualified Biologist shall conduct a focused survey for active nests within **5 days** prior to the initiation of Project-related activities. Surveys shall be conducted in all suitable habitat located at Project work sites and in staging and storage areas. The minimum survey radii surrounding the work area shall be the following: (1) **250 feet** for non-raptors; (2) **1,000 feet** for raptors.
2. *Active Nest Protections.* If active nests are found, the Qualified Biologist shall observe any identified active nests prior to the start of any construction-related activities to establish a behavioral baseline of the adults and any nestlings. Once work commences, all active nests shall be regularly monitored by the Qualified Biologist for a minimum of **two (2)** consecutive days to detect any signs of disturbance and behavioral changes as a result of the Project. In addition to direct impacts, such as nest destruction, nesting birds might be affected by noise, vibration, odors and movement of workers or equipment. Abnormal nesting behaviors which may cause reproductive harm include, but are not limited to, defensive flights/vocalizations directed towards Project personnel, standing up from a brooding position, and flying away from the nest. If signs of disturbance and behavioral changes are observed, work shall halt, and the Qualified Biologist shall either halt work until the nest is no longer active and increase protective buffer zones (see Mitigation Measure 3 below).
3. *Active Nest Buffers.* Active nest sites and protective buffer zones shall be designated as Ecologically Sensitive Areas (ESAs), where no Project-related



Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 9 of 15

activities may occur and no personnel may enter. These ESAs shall be maintained (while occupied, or longer for multi-clutch and annually returning species such as raptors) during Project activities with the establishment of a fence barrier or flagging surrounding the nest site. Buffers shall remain in place throughout Project activities or until the nest becomes inactive, whichever comes first.

4. *Bird Protections During Vegetation Removal.* To the maximum extent possible, vegetation shall not be removed between **February 15 to September 15** to avoid impacts to nesting birds.

## ENVIRONMENTAL DATA

CEQA requires that information developed in EIRs and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB online field survey form and other methods for submitting data can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plantsand-Animals>.

## FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish & G. Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

## CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the City in identifying and mitigating Project impacts on biological resources. If you have any questions, please contact Ms. Serena Stumpf, Environmental Scientist, at (707) 337-1364 or [Serena.Stumpf@wildlife.ca.gov](mailto:Serena.Stumpf@wildlife.ca.gov); or Mr. Wesley Stokes, Senior Environmental Scientist (Supervisory), at [Wesley.Stokes@wildlife.ca.gov](mailto:Wesley.Stokes@wildlife.ca.gov).

Sincerely,

DocuSigned by:  
  
Erin Chappell  
Regional Manager  
Bay Delta Region

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 10 of 15

Attachment 1: Special-Status Species from the CNDDDB within a 5-mile radius of the Project Site

ec: State Clearinghouse (SCH No. 2022100602)

## REFERENCES

- Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. *Trends in Ecology and Evolution* 25:180–189.
- Beiswenger, R. E. 1977. Diet patterns of aggregative behavior in tadpoles of *Bufo americanus*, in relation to light and temperature. *Ecology* 58:98–108.
- Brosofske, K.D., J. Chen, R.J. Naiman, and J.F. Franklin. 1997. Harvesting effects on microclimatic gradients from small streams to uplands in western Washington. *Ecological Applications* 7:1188-1200.
- Castelle, A.J., C. Conolly, M. Emers, E.D. Metz, S. Meyer, M. Witter, S. Mauermann, T. Erickson, and S.S. Cooke. 1992. Wetlands buffers use and effectiveness. Adolfson Associates, Inc., Shorelands and Coastal Zone Management Program, Washington Department of Ecology, Olympia, WA. Pub. No. 92-10.
- CDFW. 2007. California wildlife: conservation challenges. California Department of Fish and Game, Sacramento, CA.
- Davies, K.F., C. Gascon, and C.R. Margules. 2001. Habitat fragmentation: consequences, management, and future research priorities. Pages 81-97 in: M.E. Soule and G. H. Orians, (eds.) *Conservation Biology: Research Priorities for the Next Decade*. Island Press, Washington, DC.
- Dawdy, D.R. 1989. Feasibility of mapping riparian forests under natural conditions in California. pages 63-68 in: *Proceedings of the California Riparian Systems Conference*. GTR PSW-110. Davis, CA.
- Dong, J., J. Chen, Brososke, K.D., and R.J. Naiman, 1998. Modeling air temperature gradients across managed small streams in western Washington. *Journal of Environmental Management* 53:309-321.
- Francis, C. D., C. P. Ortega, and A. Cruz. 2009. Noise pollution changes avian communities and species interactions. *Current Biology* 19:1415–1419.
- Gillam, E. H., and G. F. McCracken. 2007. Variability in the echolocation of *Tadarida brasiliensis*: effects of geography and local acoustic environment. *Animal Behaviour* 74:277–286.

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 11 of 15

- Hansen, A. J., R. L. Knight, J. M. Marzluff, S. Powell, K. Brown, P. A. Gude, and K. Jones. 2005. Effects of exurban development on biodiversity patterns, mechanisms, and research needs. *Ecological Applications* 15:1893-1905.
- Hollis, G. 1975. The effect of urbanization on floods of different recurrence interval. *Water Resources Research* 11:431-435.
- Katibah, E.F. 1984. A brief history of riparian forests in the Central Valley of California. Pages 23-29 in: R.E. Warner and K.M. Hendrix (eds) *California riparian systems: ecology, conservation and productive management*. University of California Press, Berkeley, CA.
- Kiffney, P. M., J. S. Richardson, and J. P. Bull. 2003. Responses of periphyton and insects to experimental manipulation of riparian buffer width along forest streams. *Journal of Applied Ecology* 40:1060-1076.
- Kight, C. R., and J. P. Swaddle. 2011. How and why environmental noise impacts animals: An integrative, mechanistic review. *Ecology Letters* 14:1052–1061.
- Konrad, C.P. and D.B. Booth. 2005. Hydrologic changes in urban streams and their ecological significance, paper presented at American Fisheries Society Symposium, American Fisheries Society.
- Longcore, T., and C. Rich. 2004. Ecological light pollution - Review. *Frontiers in Ecology and the Environment* 2:191–198.
- Miller, M. W. 2006. Apparent effects of light pollution on singing behavior of American robins. *The Condor* 108:130–139.
- Moore, R. D., D. L. Spittlehouse, and A. Story. 2005. Riparian microclimate and stream temperature response to forest harvesting: a review. *Journal of the American Water Resources Association* 41:813-834.
- Moyle P.B. (2002). *Inland fishes of California*. University of California Press. Berkeley, CA.
- Patricelli, G., and J. J. L. Blickley. 2006. Avian communication in urban noise: causes and consequences of vocal adjustment. *Auk* 123:639–649.
- Quinn, J. L., M. J. Whittingham, S. J. Butler, W. Cresswell, J. L. Quinn, M. J. Whittingham, S. J. Butler, W. Cresswell, and W. Noise. 2017. Noise, predation risk compensation and vigilance in the chaffinch *Fringilla coelebs*. *Journal of Avian Biology* 37:601–608.
- Rabin, L. A., R. G. Coss, and D. H. Owings. 2006. The effects of wind turbines on

Mr. Justin Meek  
City of Watsonville  
December 15, 2022  
Page 12 of 15

antipredator behavior in California ground squirrels (*Spermophilus beecheyi*).  
Biological Conservation 131:410–420.

Slabbekoorn, H., and E. A. P. Ripmeester. 2008. Birdsong and anthropogenic noise:  
Implications and applications for conservation. *Molecular Ecology* 17:72–83.

Stone, E. L., G. Jones, and S. Harris. 2009. Street lighting disturbs commuting bats.  
*Current Biology* 19:1123–1127. Elsevier Ltd.

Sun, J. W. C., and P. M. Narins. 2005. Anthropogenic sounds differentially affect  
amphibian call rate. *Biological Conservation* 121:419–427.

Mr. Justin Meek  
 City of Watsonville  
 December 15, 2022  
 Page 13 of 15

**Attachment 1: Special-Status Species from the CNDDDB within a 5-mile Radius of the Project Site**

| Scientific Name                        | Common Name                        | Status  |
|--|------------------------------------|---------|
| <b>Birds</b>                           |                                    |         |
| <i>Agelaius tricolor</i>               | tricolored blackbird               | ST      |
| <i>Charadrius nivosus nivosus</i>      | western snowy plover               | FT, SSC |
| <i>Riparia riparia</i>                 | bank swallow                       | ST      |
| <b>Fish</b>                            |                                    |         |
| <i>Eucyclogobius newberryi</i>         | tidewater goby                     | FE      |
| <i>Lavinia exilicauda harengus</i>     | Monterey hitch                     | S3      |
| <b>Amphibians</b>                      |                                    |         |
| <i>Ambystoma californiense</i> pop. 1  | Santa Cruz tiger salamander        | FT      |
| <i>Dicamptodon ensatus</i>             | California giant salamander        | SSC     |
| <i>Ambystoma macrodactylum croceum</i> | Santa Cruz long-toed salamander    | FE      |
| <i>Rana boylei</i>                     | foothill yellow-legged frog        | SE      |
| <i>Rana draytonii</i>                  | California red-legged frog         | FT, SSC |
| <b>Mammals</b>                         |                                    |         |
| <i>Taxidea taxus</i>                   | American badger                    | SSC     |
| <b>Reptiles</b>                        |                                    |         |
| <i>Emys marmorata</i>                  | western pond turtle                | SSC     |
| <i>Anniella pulchra</i>                | northern California legless lizard | SSC     |
| <b>Invertebrates</b>                   |                                    |         |
| <i>Bombus caliginosus</i>              | obscure bumble bee                 | ICP     |
| <i>Bombus occidentalis</i>             | western bumble bee                 | ICP     |

Mr. Justin Meek  
 City of Watsonville  
 December 15, 2022  
 Page 14 of 15

| Scientific Name                                    | Common Name                                   | Status                 |
|--|---|------------------------|
| <i>Bombus crotchii</i>                             | crotch bumblebee                              | ICP                    |
| <i>Coelus globosus</i>                             | globose dune beetle                           | S1S2                   |
| <i>Danaus plexippus</i> pop. 1                     | monarch - California overwintering population | FC, ICP                |
| <b>Plants</b>                                      |   |                        |
| <i>Arctostaphylos andersonii</i>                   | Anderson's manzanita                          | CRPR <sup>7</sup> 1B.2 |
| <i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i>  | Hooker's manzanita                            | S2                     |
| <i>Arctostaphylos pajaroensis</i>                  | Pajaro manzanita                              | S1                     |
| <i>Centromadia parryi</i> ssp. <i>congdonii</i>    | Congdon's tarplant                            | CRPR 1B.1              |
| <i>Chorizanthe pungens</i> var. <i>pungens</i>     | Monterey spineflower                          | S2                     |
| <i>Chorizanthe robusta</i> var. <i>robusta</i>     | robust spineflower                            | FE, CRPR 1B.1          |
| <i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> | seaside bird's-beak                           | CRPR 1B.1              |
| <i>Ericameria fasciculata</i>                      | Eastwood's goldenbush                         | CRPR 1B.1, S2          |
| <i>Erysimum ammophilum</i>                         | sand-loving wallflower                        | CRPR 1B.2              |
| <i>Gilia tenuiflora</i> ssp. <i>arenaria</i>       | Monterey gilia                                | CRPR 1B.2              |
| <i>Piperia yadonii</i>                             | Yadon's rein orchid                           | CRPR 1B.1              |
| <i>Holocarpha macradenia</i>                       | Santa Cruz tarplant                           | FT, SE                 |
| <i>Horkelia cuneata</i> var. <i>sericea</i>        | Kellogg's horkelia                            | CRPR 1B.1              |
| <i>Horkelia marinensis</i>                         | Point Reyes horkelia                          | CRPR 1B.2              |

<sup>7</sup> CRPR 1B plants are considered rare, threatened, or endangered in California and elsewhere. Further information on CRPR ranks is available in CDFW's *Special Vascular Plants, Bryophytes, and Lichens List* (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline>) and on the California Native Plant Society website (<https://www.cnps.org/rare-plants/cnps-rare-plant-ranks>).

Mr. Justin Meek  
 City of Watsonville  
 December 15, 2022  
 Page 15 of 15

| Scientific Name   | Common Name                 | Status    |
|---|-----------------------------|-----------|
| <i>Monolopia gracilens</i>                                  | woodland woollythreads      | CRPR 1B.2 |
| <i>Plagiobothrys chorisianus</i> var.<br><i>chorisianus</i> | Choris' popcornflower       | CRPR 1B.2 |
| <i>Plagiobothrys diffusus</i>                               | San Francisco popcornflower | SE        |

FE = federally listed as endangered under the Endangered Species Act (ESA); FT = federally listed as threatened under ESA; FC = candidate for federal listing under ESA; SE = state listed as endangered under CESA; ST = state listed as threatened under CESA; CE = candidate for state listing as threatened or endangered; FP = state fully protected under Fish and Game Code; SSC = state species of special concern; ICP = state invertebrate of conservation priority; CRPR = California rare plant rank