

State of California – Natural Resources Agency DEPARTMENT OF FISH AND WILDLIFE Bay Delta Region 2825 Cordelia Rd, Suite 100 Fairfield, CA 94534 (707) 428-2002 www.wildlife.ca.gov GAVIN NEWSOM, Governor CHARLTON H. BONHAM, Director





October 31, 2023

Elizabeth Wada City of Belmont One Twin Pines Lane, Suite 385 Belmont, CA, 94002 <u>EWada@belmont.gov</u>

Subject: Twin Pines Stormwater Detention Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2023100139, City of Belmont, San Mateo County

Dear Ms. Wada:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) from the City of Belmont (City) for the Twin Pines Stormwater Detention Project (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

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 EIR (Cal. Code Regs., tit. 14, § 15082, subd. (b)).

CDFW ROLE

CDFW is a **Trustee Agency** with responsibility under CEQA for commenting on projects that could impact fish, plant, and wildlife resources (Pub. Resources Code, § 21000 et seq.; Cal. Code Regs., tit. 14, § 15386). CDFW is also considered a **Responsible Agency** if a project would require discretionary approval, such as a permit pursuant to the California Endangered Species Act (CESA), Native Plant Protection Act (NPPA), the Lake and Streambed Alteration (LSA) Program, and other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources. Pursuant to our authority, CDFW has the following concerns, comments, and recommendations regarding the Project.

PROJECT DESCRIPTION AND LOCATION

Proponent: City of Belmont

¹ 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.

Objective: The objective of the Project is to construct an underground stormwater storage facility beneath the parking lots and other areas of the 10-acre Twin Pines Park. The Project is designed to reduce the peak stormwater flow of Belmont Creek, to trap sediment and debris, to reduce flood risk in the flood-prone lower creek reach downstream of El Camino Real, and to provide ancillary water quality benefits. Primary Project activities include installation of a diversion weir that would divert high flows from Belmont Creek to a 9-acre-foot underground storage facility, where water would remain before flowing back into Belmont Creek through a 12-inch outlet pipe, a sediment chamber, bank stabilization along Belmont Creek, and an instream check structure in Belmont Creek.

Location: City of Belmont, San Mateo County, Twin Pines Lane east of Ralston Avenue, and south of 6th Avenue, at 37.51727, -122.27756.

Timeframe: There are no known Project start and end dates.

The CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) require that the EIR 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:

- Land use changes resulting from, for example, rezoning certain areas;
- 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; and
- Construction schedule, activities, equipment, and crew sizes.

REGULATORY REQUIREMENTS

California Endangered Species Act

Please be advised that a CESA Incidental Take Permit (ITP) must be obtained if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Under CESA, "take" means "hunt,

pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86). If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA ITP. CDFW's issuance of an ITP is subject to CEQA and to facilitate permit issuance, any such project modifications and mitigation measures must be incorporated into the EIR's analysis, discussion, and 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). In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA, however, does not eliminate the Project proponent's obligation to comply with Fish and Game Code.

Lake and Streambed Alteration

An LSA Notification, pursuant to Fish and Game Code sections 1600 et. seq., is required for Project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that will substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland habitat; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW may not execute the final LSA Agreement until it has considered the final EIR and complied with its responsibilities as a Responsible Agency under CEQA.

ENVIRONMENTAL SETTING

The EIR 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 the CEQA document prepared for the Project 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). The EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or state, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see:

https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities#sensitive%20natural%20co mmunities), and any stream or wetland set back distances the City may require.

Habitat descriptions and the potential for species occurrence included in the EIR should include robust information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Consultation System, California Aquatic Resources Inventory, and findings from "positive occurrence" databases such as CDFW's California Natural Diversity Database (CNDDB). Only with sufficient data and information from the habitat assessment, can the City 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, if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol.

Botanical surveys for special-status plant species, including those with a California Rare Plant Rank (<u>http://www.cnps.org/cnps/rareplants/inventory/</u>)², must be conducted during the blooming period within the Project area and adjacent habitats that may be indirectly impacted by, for example, changes to hydrological conditions, and require the identification of reference populations. More than one year of surveys may be necessary based on environmental conditions. Please refer to CDFW protocols for surveying and evaluating impacts to special-status plants available at: https://www.wildlife.ca.gov/Conservation/Plants.

Surveys for special-status species should consider the potential for impacting species outside of the Project area. For example, the Project may cause auditory or visual disturbances above ambient levels that may result in nest abandonment and loss of eggs, even if the nest is outside of the Project footprint.

IMPACT ANALYSIS AND MITIGATION MEASURES

The EIR should discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project (CEQA Guidelines, § 15126.2). This includes evaluating and describing impacts such as:

² California Rare Plant Rank (CRPR) 1B and 2B plants are considered rare, threatened, or endangered in California. Further information on CRPR ranks is available in CDFW's *Special Vascular Plants, Bryophytes, and Lichens List* (<u>https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline</u>) and on the California Native Plant Society website (<u>https://www.cnps.org/rare-plants/california-rare-plant-ranks</u>).

- Land use changes that would reduce open space or agricultural land uses and increase residential or other land use involving increased development;
- Encroachments into riparian habitats, wetlands or other sensitive areas;
- Potential for impacts to special-status species;
- 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, roosts, vegetation overhanging banks);
- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; including impacts to migratory birds caused by lighting and reflective building surfaces; and
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.

The EIR should also identify existing and 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 each impact (CEQA Guidelines, §15355). Although a project's impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact – e.g., reduction of available habitat for a special-status species – should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

The CEQA Guidelines direct the City, as the Lead Agency, to consider and describe in the EIR all feasible mitigation measures to avoid and/or mitigate potentially significant impacts of the Project on the environment based on a comprehensive analysis of the direct, indirect, and cumulative impacts of the Project (CEQA Guidelines, §§ 15021, 15063, 15071, 15126.2, 15126.4 & 15370). This should include 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 (NMFS). These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels.

SPECIFIC COMMENTS AND RECOMMENDATIONS

Comment 1: Riparian Setbacks

Issue: The Project has the potential to encroach into the riparian zone from development of an underground stormwater storage facility near Belmont Creek. Encroachment into the riparian zone can negatively impact sensitive riparian and aquatic species through reduction of habitat and decreased water quality. Additionally, the NOP states the bank along Belmont Creek will be stabilized as part of the Project. The Project could cause altered channel bed material mobilization and distribution and increased channel scour, which could affect native fish, aquatic organisms, and riparian communities. The Project's construction and operation activities could also cause significant alteration of substrate and increased stream sedimentation that could disrupt or deter fish spawning, other aquatic fauna reproduction, and impair aquatic habitat diversity.

Evidence impact would be significant: Riparian trees and vegetation, and associated floodplains, provide many essential benefits to stream and aquatic species habitat, including thermal protection, cover, and large woody debris (Moyle 2002, CDFW 2007). 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 two to seven 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 1: CDFW recommends the Project establish and the EIR 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. At a minimum, CDFW recommends a 50-foot riparian buffer as measured from the top of streambank to the nearest Project infrastructure.

Recommendation 2: CDFW recommends the Project perform an assessment to determine if bank stabilization is necessary. If the assessment determines that bank stabilization is necessary to protect existing infrastructure, CDFW recommends that it 1) does not include concrete, 2) limits the amount of rock or other hardscape, and 3) focuses on a bioengineered approach with appropriate native plantings.

Comment 2: Impervious Surfaces & Impacts to Streamflow

Issue: The Project could increase impervious surfaces at the Project site. 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 and reducing water quality. In addition, the Project's construction, operation, and maintenance activities may also affect existing streamflow and induce changes in timing and quantity of streamflow released downstream of the Project's 12-inch outlet in the Belmont Creek watershed.

Evidence 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). Streamflow diverted from Belmont Creek, stored in a holding tank, and then released back into Belmont Creek could also affect chemical constituents, such as dissolved oxygen, pH, salinity, and water temperature. Stormwater runoff pollutants are transported to receiving waters through physical and chemical processes (Mikkelson et al. 1994). Urban stormwater is typically characterized by four pollutant categories: (1) total suspended solids (TSS), (2) heavy metals, (3) polycyclic aromatic hydrocarbons, and (4) nutrients; these pollutants often go through various physio-chemical processes before they impact aquatic habitat (Aryal et al. 2010). Suspended solids increase turbidity and decrease light penetration, reducing activity and growth of photosynthetic organisms. In addition, suspended solids have been attributed to clogging fish gills (Aryal et al. 2010).

Water diversions can also impact flow regimes, decreasing the frequency of high flows. Prolonged low flows can cause streams to become graded and cause channels to become disconnected from floodplains (Poss et al. 1997). This process decreases available habitat for aquatic species including fish that utilize floodplains for nursery grounds. Prolonged low flows can also increase mortality for species that rely on specific flow regimes, such as endangered salmonids (Moyle 2002). For example, water diversions have been shown to increase mortality of both juvenile and adult coho salmon (*Oncorhynchus kisutch*; CDFG 2004, CDFW 2015). Reduced flows can also lead to stagnant water conditions, a situation that allows the growth of harmful cyanobacteria resulting in mortality of aquatic animals.

Amphibians can also be sensitive to decreased flows. For example, plethodontid salamanders are intolerant to desiccation and thus vulnerable to headwater stream diversions (Ray 1958). Furthermore, Kupferberg et al. (2012) reported that low flows were strongly correlated with early life stage mortality and decreased adult densities of foothill yellow-legged frogs (*Rana boylii*) and California red-legged frogs (*Rana draytonii*). Plant cover and diversity can be decreased by reduced flows (Busch and Smith 1995, Stromberg et al. 1996), likely as a result of physiological stress leading to reduced growth rates and recruitment, morphological changes, and mortality (Reily and Johnson 1982, Perkins et al. 1984, Fenner et al. 1985, Kondolf and Curry 1986, Rood and Mahoney 1990). Additionally, diversions can be barriers to fish passage if they are not properly designed.

Recommendation 1: CDFW recommends the storm runoff be dispersed rather than concentrated to a stormwater outfall or other receiving waters. CDFW recommends implementation of low impact development 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 to the ground and prevent stream hydromodification (see *Evaluating the potential benefits of permeable pavement on the quantity and quality of stormwater runoff* (USGS 2019)).

Recommendation 2: CDFW recommends the City identify, analyze, and impose (where feasible) Project alternatives and mitigation measures to minimize or avoid potential impacts caused by the operation of the underground stormwater facility structure, including, but not limited to: (1) entrainment of fish; (2) reduced streamflow and available fish habitat in the Project's diverted reach and downstream reaches; (3) high velocity inundation of stream habitat at the outlet; (4) blocked or impaired movement of fish and aquatic organisms; and (5) impacts to water quality and temperature.

Recommendation 3: The EIR should study and evaluate potential impacts from rapid fluctuating flows and increased diversions caused by the Project. If it is determined that aquatic organisms would be significantly affected by the Project-induced flow fluctuations or diversions, appropriate avoidance, minimizations and/or mitigation should be provided. Any modified streamflow regime should protect and maintain existing aquatic habitat. The frequency, timing, magnitude, and duration of streamflow release and diversion recommendations should be based on site-specific hydrologic and biological information. An appropriate minimum streamflow should be evaluated using a combination of critical riffle analysis and applying the California Environmental Flows Framework in consultation with CDFW and NMFS.

Recommendation 4: CDFW recommends a study be conducted to characterize water quality at different flow levels to detect changes in water chemistry and to evaluate the associated Project effects on biological resources. Any changes in water temperature should also be evaluated to determine how aquatic organisms may be affected.

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 CNDDB. The CNDDB field survey form can be filled out and submitted online at the following link: <u>https://wildlife.ca.gov/Data/CNDDB/Submitting-Data</u>. The types of information reported to CNDDB can be found at the following link: <u>https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals</u>.

FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. 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. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Mr. Wesley Stokes, Senior Environmental Scientist (Supervisory), at <u>Wesley.Stokes@wildlife.ca.gov</u>.

Sincerely,

-DocuSigned by: Erin Chappell

Erin Chappell Regional Manager Bay Delta Region

ec: Office of Planning and Research, State Clearinghouse (SCH No.2023100139) Craig Weightman, CDFW Bay Delta Region - <u>Craig.Weightman@wildlife.ca.gov</u> Will Kanz, CDFW Bay Delta Region - <u>Will.Kanz@wildlife.ca.gov</u> Alexis Harrison, CDFW Bay Delta Region - <u>Alexis.Harrison@wildlife.ca.gov</u>

REFERENCES

- Aryal, R., S. Vigneswaran, J. Kandasamy, and R. Naidu. 2010. Urban stormwater quality and treatment. NSW 2007 27(5): 1343-1359.
- 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.
- Busch, D. E., and S. D. Smith. 1995. Mechanisms associated with decline of woody species in riparian ecosystems of the southwestern U.S. Ecological Monographs 65:347–370.

- 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.
- California Department of Fish and Game [CDFG]. 2004. Recovery strategy for California coho salmon. Report to the California Fish and Game Commission, Sacramento, CA, USA.
- California Department of Fish and Wildlife [CDFW]. 2007. California wildlife: conservation challenges. California Department of Fish and Game, Sacramento, CA.
- CDFW. 2015. Recovery strategy for California coho salmon progress report. A report prepared for the California Fish and Game Commission, Sacramento, CA, USA.
- 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, Brosofske, 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.
- Fenner, P., W. W. Brady, D. R. Patton, P. Fenner, W. W. Brady, and D. R. Patton. 1985. Effects of regulated water flows on regeneration of Fremont cottonwood. Journal of Range Management 38:135–138.
- 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.
- Kondolf, G. M., and R. R. Curry. 1986. Channel erosion along the Carmel River, Monterey County, California. Earth Surface Processes and Landforms 11:307– 319.
- 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
- Kupferberg, S. J., W. J. Palen, A. J. Lind, S. Bobziern, A. Catenazzi, J. Drennan, and M. E. Power. 2012. Effects of flow regimes altered by dams on survival, population declines, and range-wide losses of California river-breeding frogs. Conservation Biology 26:513–524.
- Mikkelson, P.S., G. Weyer, Y. Walden, V. Colandini, S. Poulsen, D. Grotehusmann, and R. Rohlfing. 1994. Pollution from urban stormwater infiltration. Water Science and Technology 29: 293-302.
- 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.
- Perkins, D. J., B. N. Carlsen, M. Fredstrom, R. H. Miller, C. M. Rofer, G. T. Ruggerone, and C. S. Zimmerman. 1984. The effects of groundwater pumping on natural spring communities in Owens Valley. Pages 515–526 *in* R. E. Warner and K. M. Hendrix, editors. California Riparian Systems: Ecology, Conservation, and Productive Management. University of California Press, Berkeley, CA, USA.
- Stromberg, J. C., R. Tiller, and B. Richter. 1996. Effects of groundwater decline on riparian vegetation of semiarid regions: The San Pedro, Arizona. Ecological Applications 6:113–131.
- Ray, C. 1958. Vital limits and rates of desiccation in salamanders. Ecology 39:75–83.
- Reily, P. W., and W. C. Johnson. 1982. The effects of altered hydrologic regime on tree growth along the Missouri River in North Dakota. Canadian Journal of Botany 60:2410–2422.

- Rood, S. B., and J. M. Mahoney. 1990. Collapse of riparian poplar forests downstream from dams in western prairies: Probable causes and prospects for mitigation. Environmental Management 14:451–464.
- USGS [U.S. Geological Survey]. 2019. Evaluating the potential benefits of permeable pavement on the quantity and quality of stormwater runoff. USGS Upper Midwest Water Science Center. <u>https://www.usgs.gov/centers/upper-midwest-water-science-center/science/evaluating-potential-benefits-permeable-pavement?qt-science_center_objects=0#qt-science_center_objects</u>