# California Regional Water Quality Control Board San Francisco Bay Region

## Order No. R2-2023-0019

### Amendment of Order No. R2-2022-0018 (NPDES Permit No. CAS612008) For Alameda, Contra Costa, Santa Clara, San Mateo, and Solano Permittees

#### WHEREAS the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), finds the following:

1. The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), adopted Order No. R2-2022-0018 to reissue the San Francisco Bay Municipal Regional Stormwater Permit (MRP or Permit) at a public hearing on May 11, 2022. The Permit regulates municipal stormwater discharges by the following jurisdictions and entities, hereafter collectively referred to as the Permittees:

The cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, Alameda County, the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control and Water Conservation District, which have joined together to form the Alameda Countywide Clean Water Program (Alameda Permittees);

The cities of Antioch, Brentwood, Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Oakley, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, Contra Costa County, the Contra Costa County Flood Control and Water Conservation District, which have joined together to form the Contra Costa Clean Water Program (Contra Costa Permittees);

The cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale, the towns of Los Altos Hills and Los Gatos, the Santa Clara Valley Water District, and Santa Clara County, which have joined together to form the Santa Clara Valley Urban Runoff Pollution Prevention Program (Santa Clara Permittees);

The cities of Belmont, Brisbane, Burlingame, Daly City, East Palo Alto, Foster City, Half Moon Bay, Menlo Park, Millbrae, Pacifica, Redwood City, San Bruno, San Carlos, San Mateo, and South San Francisco, the towns of Atherton, Colma, Hillsborough, Portola Valley, and Woodside, the San Mateo County Flood and Sea Level Rise Resiliency District, and San Mateo County, which have joined together to form the San Mateo Countywide Water Pollution Prevention Program (San Mateo Permittees); and

The cities of Fairfield, Suisun City, and Vallejo, and the Vallejo Flood & Wastewater District, which have joined together to form the Solano Stormwater Alliance (Solano Permittees).

1. At the May 11, 2022, hearing, the Water Board directed Water Board staff to report back to the Board on certain Permit topics such as including alternative treatment or low impact development (LID) measures in Regulated Projects (as that term is defined in the Permit) and the impacts, if any, on the Permit’s Category C Special Project (Affordable Housing) LID credits on housing costs.
2. Since the Permit’s adoption, Water Board staff convened numerous stakeholder meetings and workgroups related to the Permit, including on alternative treatment systems and Category C Special Projects. Based on new information, this Order amends the Permit. Specifically, this Order adds Provision C.3.c.i.(2)(c)(iii) to the Permit to allow for the implementation of alternative treatment systems upon a demonstration of technical infeasibility of LID treatment systems and a demonstration of commensurate benefit, among other requirements. This Order also amends the Category C Special Projects Provision of the Permit so that it better aligns with affordable housing projects built in the San Francisco Bay Region by modifying Provision C.3.e.ii.(5)’s method for calculating LID Affordable Housing Credits and making related changes. Further, the Order modifies Section C.3.e.ii.(5) of Permit Attachment A (Fact Sheet) to be consistent with the changes to the Category C Special Projects Provision.
3. The Fact Sheet for this Order (Attachment 1) contains background information and the rationale and basis for this Order’s requirements. It is hereby incorporated into this Order by reference and constitutes findings for this Order.
4. This Order is exempt from the provisions of the California Environmental Quality Act pursuant to Water Code section 13389. This Order does not cover new sources as defined by the federal Clean Water Act (CWA) (i.e., sources constructed after new source performance standards were published).
5. Pursuant to Water Code section 13149.2, the Water Board has considered readily available information concerning potential water quality impacts in disadvantaged communities and tribal communities that may result from the adoption of this Order. As described in Finding 3, this Order makes modifications to the Permit. The authorization of alternative treatment systems and the modification to the Permit’s Category C Special Projects will not result in water quality impacts. The modifications take into account potential water quality impacts and incorporate measures to protect water quality or otherwise provide offsetting water quality benefits (see Attachment 1, pp. A-18 to A-19, Antidegradation).

There were no environmental justice concerns raised pertaining to water quality impacts within the Water Board’s authority. However, interested persons raised other environmental justice concerns regarding potential adverse impacts that the MRP’s road reconstruction requirements could have on road safety in disadvantaged communities. The Water Board considered these concerns and determined that the concerns are not supported and changes to the requirements of the Order are not warranted. The requested changes to the MRP’s road reconstruction requirements would result in adverse water quality impacts in disadvantaged communities and are not authorized under the NPDES regulations (40 C.F.R. § 122.62).

1. The Water Board notified the Permittees and interested agencies and persons of its intent to adopt this Order and provided an opportunity to submit written comments. The Water Board also notified potentially affected disadvantaged communities and tribal communities of this Order and provided them with an opportunity to engage prior to the public comment period.
2. The Water Board, in a public meeting on October 11, 2023, heard and considered all comments pertaining to this Order. The Fact Sheet for this Order provides details regarding the public hearing.

#### IT IS HEREBY ORDERED, pursuant to the provisions of California Water Code Division 7 (commencing with §13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder, that the Permittees shall comply with the Permit as amended by this Order. Additions are displayed as underline type and deletions are displayed as ~~strikethrough~~ format.

1. Provision C.3.c.i.(2)(c)(iii) Alternative Treatment Systems is added to Order No. R2-2022-0018, as follows:

Alternative Treatment Systems

Permittees may allow a Regulated Project to comply with the Provision C.3.d design volume and/or flow requirement for the approved portion (Approved Portion)[[1]](#footnote-2) using an alternative treatment system (i.e., onsite non-LID treatment systems (e.g., media filters) in combination with systems providing flow control benefit), as follows:

Alternative treatment systems may be implemented in the following two geographic areas, as identified in a Countywide Hydromodification Applicability Map accepted by the Executive Officer:

Areas draining to channels that are hardened continuously from the point of discharge into the channel to San Francisco Bay or to the Pacific Ocean; and

Areas draining directly into the Bay, the Ocean, or channels that are tidally influenced at the point of discharge into the channel.

Before a Permittee may implement alternative treatment systems, the Permittee shall, among other requirements in this Provision C.3.c.i.(2)(c)(iii), re-submit the applicable portions of its respective Countywide Hydromodification Applicability Map to accurately identify the two geographic areas described above and the resubmitted applicable portions of the map must be accepted by the Executive Officer as accurate.

Alternative treatment systems in the two geographic areas listed in Provision C.3.c.i.(2)(c)(iii)a must have an active General Use Level Designation certification for Enhanced Treatment from the Washington State Department of Ecology’s Technology Assessment Protocol – Ecology (TAPE) Program.[[2]](#footnote-3)

Implementation of alternative treatment systems requires a Demonstration of Technical Infeasibility[[3]](#footnote-4) that has been submitted by the Permittee to the Water Board and approved by the Executive Officer for each Regulated Project where an alternative treatment system is proposed. Permittees shall include the following documentation in the Demonstration of Technical Infeasibility:

1. The technical constraints (spatial, utility, or other) to treating 100 percent of the Provision C.3.d design volume and/or flow onsite and offsite using LID and that the Regulated Project maximizes LID treatment within those constraints. This must include an assessment of the technical feasibility of incorporating all potential types and configurations of LID, including, but not limited to, the following: runoff capture and use, suspended pavement systems with the approved biotreatment soil media (e.g., Silva cells), bioretention, green roofs, pervious pavement systems, and infiltration galleries.

For onsite technical infeasibility, a demonstration that the Regulated Project will implement LID in or on all potential or actual onsite landscaping opportunities[[4]](#footnote-5) and that there are no potential or actual onsite landscaping opportunities in or on which LID will not be implemented.

For offsite technical infeasibility, demonstration that there are no opportunities to implement[[5]](#footnote-6) an equivalent amount of LID in the adjacent or nearby public right of way (ROW) for the Regulated Project; elsewhere in the Permittee’s jurisdiction (including opportunities identified in the Permittee’s GI Plan); and elsewhere in the same county (including opportunities identified in the GI Plans of other Permittees in the county).

1. How LID was considered by both the project proponent and by the Permittee from the early stages of the project's planning and entitlement processes and how that resulted in the project’s final design.

Implementation of alternative treatment systems requires a Demonstration of Commensurate Benefitc that has been submitted by the Permittee to the Water Board and approved by the Executive Officer for each Regulated Project where an alternative treatment system is proposed. Permittees shall include the following documentation in the Demonstration of Commensurate Benefit:

1. That the alternative treatment system includes TAPE-certified (pursuant to Provision C.3.c.i.(2)(c)(iii)(b)) treatment controls sized to accommodate the Provision C.3.d design volume and/or flow.
2. That the alternative treatment system includes flow controls that, based on monitoring and/or field studies, provide flow control benefit commensurate to the flow control benefit of LID measures had they been implemented for the project.

At a minimum, this shall include consideration of vertical infiltration into soils (including soils with low infiltration rates), horizontal infiltration, evapotranspiration, and the effect of inter-event periods on antecedent soil conditions. In places where infiltration is not allowed because of permanent high groundwater (i.e., less than 10 feet below the surface) or documented existing significant soil and groundwater contamination, flow control benefits may be compared to those from lined bioretention cells.

Implementation – Permittees may implement Provision C.3.c.i.(2)(c)(iii) after they have collectively submitted a Regional Guidance Document to facilitate Permittees’ compliance with the Demonstration of Technical Infeasibility and with the Demonstration of Commensurate Benefit and the Executive Officer has approved the Regional Guidance Document.

At a minimum, the Permittees shall include the following in the Regional Guidance Document:

1. Regional guidance to ensure that Permittees and projects seeking to use alternative treatment systems comply with the requirements for the Demonstrations of Technical Infeasibility and Commensurate Benefit set forth in Provisions C.3.c.i.(2)(c)(iii)c-d;
2. Review of data from monitoring and/or field studies, and guidance on the use of that data sufficient to demonstrate commensurate benefit;
3. Guidance on how the Demonstrations of Technical Infeasibility and Commensurate Benefit apply to different types of projects; and
4. How Permittees will incorporate assessment of technical infeasibility and commensurate benefit into the early stages of their municipal planning processes.

If the Permittees choose to submit a Regional Guidance Document, they must do so on or before the deadline set forth in Provision C.3.c.i.(2)(c)(iii)f.2. The Regional Guidance Document is subject to the approval of the Executive Officer. If the Executive Officer determines that the Regional Guidance Document is sufficiently detailed to enable Permittee review of Demonstrations of Technical Infeasibility and Commensurate Benefits for Regulated Projects on a consistent, objective, and rigorous basis, the Executive Officer may, in the approval of the Regional Guidance Document, allow Permittee[[6]](#footnote-7) approval of the Demonstration of Technical Infeasibility and of the Demonstration of Commensurate Benefit for Regulated Projects in lieu of the requirement for Executive Officer approval of both demonstrations, contingent on Permittees implementing the approved Regional Guidance Document for those Regulated Projects.

Reporting

1. In each Annual Report, Permittees shall provide the following information for each Regulated Project that is implementing Provision C.3.c.i.(2)(c)(iii): the final percentage of LID treatment and non-LID treatment and all other information reported for Regulated Projects pursuant to Provision C.3.b.iv.
2. If the Permittees choose to submit the Regional Guidance Document—which is a prerequisite to their implementation of Provision C.3.c.i.(2)(c)(iii)—it shall be submitted no later than with the 2025 Annual Reports.
3. Provision C.3.e.ii.(5) Category C Special Project Criteria (Affordable Housing) of Order No. R2-2022-0018 is amended, as follows:
	1. Category C Special Project Criteria (Affordable Housing)
		1. For the purposes of attributing Affordable Housing Credits, affordable housing is defined as preserved housing with deed restrictions running at least 55 years, at rent/mortgage rates (including utilities) no greater than 30 percent of the ~~total household income, and which meets the following income levels specified in maximum~~ area median household income (AMI) limits adjusted for household size based on the maximum percentage of AMI for each income category, which are defined by the Federal Department of Housing and Urban Development~~’s~~ (HUD~~’s~~) ~~definition of~~ for affordable housing in metropolitan areas as follows: ~~For metropolitan areas, HUD defines~~ Acutely Low household incomes as 0-15 percent of AMI, Extremely Low household incomes as ~~0~~16-30 percent of ~~area median household income (~~AMI~~)~~, Very Low household incomes as 31-50 percent of AMI, Low household incomes as 51-80 percent of AMI, and Moderate household incomes as 81-120 percent of AMI.[[7]](#footnote-8)

To be considered a Category C Special Project, a Regulated Project must additionally meet both of the following criteria:

1. Be primarily a residential development project,[[8]](#footnote-9) and
2. Achieve at least a gross density of 40 DU/Ac.
	* 1. For any Category C Special Project, the total maximum LID Treatment Reduction Credit allowed is the sum of four different types of credits that the Category C Special Project may qualify for, namely: Affordable Housing, Location, Density, and Minimized Surface Parking Credits. The total maximum LID Treatment Reduction Credit for any Category C Special Project may not exceed 100 percent.
		2. Affordable Housing Credits: A Category C Special Project may qualify for Affordable Housing Credits, according to the following criteria. The income limits that shall be used for these criteria are the most current Official State Income Limits (adjusted for household size, and specific to each county), which are defined on the California Department of Housing and Community Development’s website.[[9]](#footnote-10),[[10]](#footnote-11) All qualifying affordable housing DUs must be preserved housing with deed restrictions running at least 55 years, at rent/mortgage rates (including utilities) no greater than 30 percent of the total household income.

In each Category C Special Project, up to three DUs that are used as building manager’s DUs may be exempted from the deed restriction requirement and may be excluded from the calculations described below in Provision C.3.e.ii.(5)(c)(i)-(ii).

The following two steps shall be used to calculate Affordable Housing Credits:

1. First, the percentage of the project’s DUs in each affordability category are multiplied by the respective credit multipliers, according to the table below, and rounded to the nearest whole number.

|  |  |
| --- | --- |
| AMI | Credit Multiplier |
| Moderate (≤120% of AMI) | 0.20 |
| Low (≤ 80% of AMI) | 1.00 |
| Very Low (≤ 50% of AMI) | 2.00 |
| Extremely Low (≤30% of AMI) | 3.00 |
| Acutely Low (≤15% of AMI)[[11]](#footnote-12) | 4.00 |

1. Second, the credits generated from the table above in the first step in Provision C.3.e.ii.(5)(c)(i) are summed together to produce a weighted sum and rounded to the nearest whole number. Then Affordable Housing Credit is granted according to which weighted sum range (in the table below) that whole number (X) falls into.

|  |  |
| --- | --- |
| Weighted Sum (whole number) | Affordable Housing Credit |
| X ≤ 9% | 0% |
| 10% ≤ X ≤ 20% | 20% |
| 21% ≤ X ≤ 30% | 30% |
| 31% ≤ X ≤ 40% | 40% |
| 41% ≤ X ≤ 50% | 50% |
| 51% ≤ X ≤ 60% | 60% |
| 61% ≤ X ≤ 70% | 70% |
| 71% ≤ X ≤ 80% | 80% |
| 81% ≤ X ≤ 90% | 90% |
| 91% ≤ X | 100% |

~~To qualify for 70 percent Affordable Housing Credit:~~

~~100 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Moderate household income level (≤ 120 percent of AMI), at least 75 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Low household income level (≤ 80 percent of AMI), at least 50 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Very Low household income level (≤ 50 percent of AMI), and at least 25 percent of the project’s DU’s must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Extremely Low household income level (≤ 30 percent of AMI).~~

~~To qualify for 50 percent Affordable Housing Credit:~~

~~At least 75 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Moderate household income level (≤ 120 percent of AMI), at least 50 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Low household income level (≤ 80 percent of AMI), at least 25 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Very Low household income level (≤ 50 percent of AMI), and at least 15 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Extremely Low household income level (≤ 30 percent of AMI).~~

~~To qualify for 25 percent Affordable Housing Credit:~~

~~At least 50 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Moderate household income level (≤ 120 percent of AMI), at least 25 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Low household income level (≤ 80 percent of AMI), at least 15 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Very Low household income level (≤ 50 percent of AMI), and at least 5 percent of the project’s DUs must have monthly rent/mortgage rates~~~~k~~ ~~no greater than 30 percent of the Extremely Low household income level (≤ 30 percent of AMI).~~

|  |  |
| --- | --- |
| ~~AMI~~ | ~~Minimum Percentage of DUs~~ |
| ~~70% credit~~ | ~~50% credit~~ | ~~25% credit~~ |
| ~~Moderate~~~~(≤120% of AMI)~~ | ~~100~~ | ~~75~~ | ~~50~~ |
| ~~Low~~~~(≤80% of AMI)~~ | ~~75~~ | ~~50~~ | ~~25~~ |
| ~~Very Low~~~~(≤50% of AMI)~~ | ~~50~~ | ~~25~~ | ~~15~~ |
| ~~Extremely Low~~~~(≤30% of AMI)~~ | ~~25~~ | ~~15~~ | ~~5~~ |

1. Provision C.3.e.v.(3)(f) Reporting on Special Projects of Order No. R2-2022-0018 is amended, as follows:

(f) Category C Projects: Number of DUs in each AMI Category and Number of Manager’s DUs: For Category C Special Projects only, the number of preserved DUs (DUs with deed restrictions running at least 55 years) that have rent/mortgage rates (including utilities) no less than 30 percent of the Moderate, Low, Very Low, ~~and~~ Extremely Low, and Acutely Low area median household income levels specified in Provision C.3.e.ii.(5)(c), and the number of Manager’s DUs (up to 3).

1. Table 3.1 Standard Tracking and Reporting Form for Potential Special Projects of Order No. R2-2022-0018 is amended, as follows:

Table 3.1 Standard Tracking and Reporting Form for Potential Special Projects

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Project No. | Permittee | Address | Application Submittal Date | Description | Site Total Acreage | Total Impervious Surface Created/ Replaced | Gross DensityDU/Ac | Category C Projects: Number of DUs in each AMI Category & Number of Manager’s DUs | FAR | Special Project Category | LID Treatment Reduction Credit | Stormwater Treatment Systems |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
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**Project No**.**:** Number of the Special Project as it appears in Table 3.1.

**Permittee:** Name of the Permittee in whose jurisdiction the Special Project will be built.

**Address:** Address of the Special Project; if no street address, state the cross streets.

**Submittal Date:** Date that a planning application for the Special Project was submitted; if a planning application has not been submitted, include a projected application submittal date.

**Description:** Type of project (commercial, mixed-use, residential), number of floors, number of units, type of parking, and other relevant information.

**Site Total Acreage:** Total site area in acres.

**Total Impervious Surface Created/Replaced**: The total impervious surfaced in acres created or replaced by the project, which is subject to the treatment requirements listed in Provision C.3.e.ii.(1).

**Gross Density in DU/Ac:** Number of dwelling units per acre.

**Category C Projects: Number of DUs in each AMI Category:** For Category C Special Projects only, the number of preserved DUs (DUs with deed restrictions running at least 55 years) that have rent/mortgage rates (including utilities) no less than 30 percent of the Moderate, Low, Very Low, ~~and~~ Extremely Low, and Acutely Low area median household income levels specified in Provision C.3.e.ii.(5)(c) , and the number of Manager’s DUs (up to 3).

**FAR:** Floor Area Ratio.

**Special Project Category:** For each Special Project Category, indicate applicability. If a Category is applicable, list the specific criteria applied to determine applicability.

**LID Treatment Reduction Credit:** For each applicable Special Project Category, state the maximum total LID Treatment Reduction Credit available. For Category C Special Projects also list the individual Affordable Housing, Location, Density, and Minimized Surface Parking Credits available.

**Stormwater Treatment Systems:** List all proposed stormwater treatment systems and the corresponding percentage of the total amount of runoff identified in Provision C.3.d. for the Project’s drainage area that will be treated by each treatment system.

1. Section C.3.e.ii.(5) of Attachment A (Fact Sheet) of Order No. R2-2022-0018 is amended, as follows:

**Provision C.3.e.ii. (Special Projects)** . . .

Category C additionally includes affordable housing criteria for determining the total LID Treatment Reduction Credit available for Category C Special Projects. Affordable housing criteria are included in Category C, for two primary reasons. First, affordable housing projects typically have high DUs/acre (as further incentivized by the Density Credits) and are typically located near public transportation (as further incentivized by the Location Credits), and thus they likely produce less automobile traffic (i.e., less pollutant loading to the MS4) compared to other development and redevelopment projects that do not have those characteristics. Second, affordable housing credited by this Provision will help reduce unsheltered homelessness, which will reduce pollutant discharges (e.g., of trash and sewage) from homeless encampments and other sources (e.g., RVs) into MS4s.[[12]](#footnote-13) The Water Board recognizes that whether to allow for affordable housing is entirely within the Permittees’ land use and zoning authority and discretion. The Water Board is not a land use agency and has not established an inclusionary housing policy in the Permit; instead, the Permit recognizes the indirect water quality benefit provided by housing development based on the level of affordability of their DUs, and accordingly provides an amount of non-LID credit proportional to that affordability. Since such development can reduce pollutants from MS4 systems, the Affordable Housing Credits are provided in the Permit~~. It will benefit the unhoused population,~~ as follows: ~~The affordable housing criteria are structured in such a way that~~ greater flexibility is granted to ~~DUs~~projects with greater levels of affordability.~~significant portions of the allowable~~ DUs with rent/mortgage rates ~~are~~capped for Acutely Low income households (0-15% AMI) receive the greatest amount of credit, followed by Extremely Low income households (16-30% of AMI), Very Low income households (31-50% of AMI), ~~and~~ Low income households (51-80% of AMI), and Moderate income households (81-120% of AMI).~~,~~ The Permit takes this approach rather than, for example, granting 100 percent credit to housing projects that have only a small number of DUs affordable to ~~allowing all affordable housing units to qualify even if they only are affordable for~~ Moderate income households, ~~(81-120% of AMI)~~ which limit affordability to a significant portion of the population. The link to water quality improvement is expected to decline as rent/mortgage rates increase, as rent/mortgage rates as high as the Moderate level are likely to reduce unsheltered homelessness and its associated impacts at a much lower rate.

The other Category C credits (location, density, and parking criteria) are maintained from the Previous Permit but reduced. This is so that Affordable Housing Credits are the dominant credit for Category C projects, while still recognizing the benefits provided by location, density, and parking criteria, and so that the total possible credit available for Category C Special Projects remains 100 percent. Category C of the Previous Permit primarily credited transit-oriented development (via Location Credits) and resulted in the treatment of ~~approximately~~ 414~~324~~ acres of impervious surface by non-LID measures region-wide, most of which is attributable to projects for which the Permittees’ reporting did not clearly demonstrate that it would have been infeasible to incorporate onsite LID or contribute to offsite LID.~~as allowed by Provision C.3.e.i.~~

Provision C.3.e.ii.(5) excludes from compliance with Provisions C.3.c (Low Impact Development) and C.3.d (Numeric Sizing Criteria for Stormwater Treatment Systems) emergency housing projects for people experiencing unsheltered homelessness, when those projects are constructed pursuant to and consistent with Government Code § 8698.4, including the definition of “homeless shelter” in subdivision (c), and that are temporary.[[13]](#footnote-14) It requires those projects instead to comply with Provision C.3.i (Site Design Measures for Small Projects) and to implement relevant best management practices developed under Provision C.17 (Discharges Associated with Unsheltered Homeless Populations), such as provision of appropriate trash collection and sanitary sewage services.[[14]](#footnote-15) This recognizes the projects’ water quality benefits from reducing the number of people experiencing unsheltered homelessness, and the discharges associated with unsheltered homelessness, as described elsewhere in this section. As described in the Fact Sheet section for Provision C.17, it further recognizes the urgent need for such projects and the limited resources available to address unsheltered homelessness relative to the identified need. The flexibility is justified by the water quality benefit from reducing unsheltered homelessness and because it is temporary. If the project becomes permanent and if its created or replaced impervious surfaces meet the thresholds for a Regulated Project, or if a new Regulated Project or Special Project is constructed, then it must comply with Provision C.3, including Provisions C.3.c and C.3.d.

Water Board staff convened a Category C Special Projects / Affordable Housing Workgroup, which met seven times between September 2022 and April 2023, to discuss the Provision C.3.e.ii.(5) Category C Special Project Criteria (Affordable Housing). The Workgroup was co-led by Permittee staff and Water Board staff. Workgroup participants included non-profit/affordable housing advocates, for-profit housing advocates, municipal housing authorities, Permittees, MTC/ABAG, engineering consultants, and others. Presentations were given by various Workgroup participants on the following topics: 1) Definitions of affordable housing; 2) The kinds of projects implemented in the region that include affordable housing; 3) Concerns about how those affordable housing projects may be affected by the existing Category C Special Project Criteria; and 4) Recommended changes to Category C Special Projects. The Workgroup and Water Board work identified new information and Water Board review of that information led to modifications of the crediting criteria first adopted by the Water Board to better align the criteria with the range of affordable housing projects being built in the Bay Area and their associated water quality benefits. The projects range from fully affordable projects, typically constructed by public agencies or non-profit entities, to projects with lesser amounts of affordability, typically constructed by for-profit developers. The revised criteria continue to grant the maximum amount of flexibility to fully affordable projects and “sliding scale” flexibility to other projects, with more flexibility granted to projects that are more affordable. This recognizes that more affordable projects have greater water quality benefit and can also be more challenging to construct because of the amount of money required to support the more affordable units. Managers’ units, which are usually not income restricted, have been excluded from the calculation to avoid unintended adverse consequences of limiting flexibility for otherwise affordable projects. The definition for “primarily residential projects” in Provision C.3.e.ii.(5)(a)(i) is intended to facilitate implementation of that subprovision and requires at least two-thirds of the square footage to be residential, which aligns with and is the definition of housing developments in California Government Code section 65589.5, subdivision (h)(2)(B).

Therefore, Category C ~~has been revised to~~ solely target~~s~~ affordable housing development and redevelopment projects, as Provision C.3.e.i in this Permit already provides sufficient flexibility for other non-affordable housing development and redevelopments that would have qualified as Category C Special Projects in the Previous Permit.

To be considered a Category C Special Project, the Regulated Project must be primarily a residential development project, achieve at least a gross density of 40 DU/acre, and the project’s DUs must comply with the criteria outlined in Provision C.3.e.ii.(5)(c), which ~~are~~ includes two steps. In the first step, the percentage of the project’s DUs in each affordability category are multiplied by the respective credit multipliers (0.20 for Moderate, 1.00 for Low, 2.00 for Very Low, 3.00 for Extremely Low, and 4.00 for Acutely Low) and rounded to the nearest whole number. In the second step, the credits generated by the multiplication in the first step are summed together to produce a weighted sum, and then Affordable Housing Credits are granted according to which range that weighted sum falls into. For example, if the weighted sum is 45 percent, that would fall into the 41-50 percent Affordable Housing Credit Tier range, and therefore the maximum allowable Affordable Housing Credit that the project could qualify for would be 50 percent. The credit multipliers are structured to recognize the increasing benefit provided by increasing levels of affordability. The result is that significantly affordable projects have maximum flexibility. However, less affordable projects are given “sliding scale” flexibility that recognizes their contribution to reductions in polluted discharges associated with unsheltered homelessness. Therefore, the credit multiplier for DUs in the Extremely Low income affordability category is greater than the credit multiplier for DUs in the Very Low income affordability category, and the credit multiplier for DUs in the Acutely Low income affordability category is greater than the credit multiplier for DUs in the Extremely Low income affordability category. The Affordable Housing Credit Tier ranges provide additional flexibility and simplicity by allowing projects to claim additional non-LID credit according to the range that the weighted sum falls into; for example, a project with a weighted sum as low as 21 percent could claim an Affordable Housing Non-LID Credit as high as 30 percent. ~~for 70 percent Affordable Housing Credit, 100 percent of the DUs within a Category C Special Project must have rent/mortgage rates (including utilities) no greater than 30 percent of the Moderate household income level (≤120 percent of AMI), 75 percent of the DUs must have rent/mortgage rates (including utilities) no greater than 30 percent of the Low household income level (≤80 percent of AMI), 50 percent of the DUs must have rent/mortgage rates (including utilities) no greater than 30 percent of the Very Low household income level (≤50 percent of AMI), and 25 percent of the DUs must have rent/mortgage rates (including utilities) no greater than 30 percent of the Extremely Low household income level (≤30 percent of AMI). Likewise, for 50 percent Affordable Housing Credit, 75 percent of the affordable housing DUs must have rent/mortgage rates (including utilities) no greater than 30 percent of the Moderate household income level (≤120 percent of AMI), 50 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Low household income level (≤80 percent of AMI), 25 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Very Low household income level (≤50 percent of AMI), and 15 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Extremely Low household income level (≤30 percent of AMI). These criteria, when implemented for Category C Special Projects, will reduce pollutant discharges from unhoused peoples into MS4s when they are housed by the newly-provided affordable housing. Finally, for 25 percent Affordable Housing Credit, 50 percent of the affordable housing DUs must have rent/mortgage rates (including utilities) no greater than 30 percent of the Moderate household income level (≤120 percent of AMI), 25 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Low household income level (≤80 percent of AMI), 15 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Very Low household income level (≤50 percent of AMI), and 5 percent must have rent/mortgage rates (including utilities) no greater than 30 percent of the Extremely Low household income level (≤30 percent of AMI).~~

**Examples for Provision C.3.e.ii.(5) Category C Special Project Criteria (Affordable Housing)**

**Example #1**: A private project consisting of 100 DUs on 1 acre of land, with preserved housing with deed restrictions running at least 55 years, at rent/mortgage rates (including utilities) no greater than 30 percent of the total household income, with the following affordability for those DUs:

2 market-rate Managers’ DUs,

13 market-rate non-Managers’ DUs,

40 Moderate DUs (40/98 = 41%),

15 Low DUs (15/98 = 15%),

20 Very Low DUs (20/98 = 20%),

10 Extremely Low DUs (10/98 = 10%), and

0 Acutely Low DUs (0/98 = 0%).

The percentages of DUs in each income category would be multiplied by the respective credit multipliers, and summed together as follows: (0.20)\*41% + (1.00)\*15% + (2.00)\*20% + (3.00)\*10% + (4.00)\*0% = 93%. That weighted sum of 93% would fall into the following Affordable Housing Credit Tier: 90% < 93% ≤ 100%. Therefore, this project could qualify for an Affordable Housing Credit of up to 100 percent.

**Example #2**: A private project consisting of 100 DUs on 1 acre of land, with preserved housing with deed restrictions running at least 55 years, at rent/mortgage rates (including utilities) no greater than 30 percent of the total household income, with the following affordability for those DUs:

3 market-rate Managers’ DUs,

22 market-rate non-Managers’ DUs,

40 Moderate DUs (40/97 = 41%),

20 Low DUs (20/97 = 21%),

10 Very Low DUs (10/97 = 10%),

5 Extremely Low DUs (5/97 = 5%), and

0 Acutely Low DUs (0/97 = 0%).

The percentages of DUs in each income category would be multiplied by the respective credit multipliers, and summed together as follows: (0.20)\*41% + (1.00)\*20% + (2.00)\*10% + (3.00)\*5% + (4.00)\*0% = 64%. That weighted sum of 64% would fall into the following Affordable Housing Credit Tier: 61% < 64% ≤ 70%. Therefore, this Category C Special Project could qualify for an Affordable Housing credit of up to 70 percent.

If combined with up to 10% Location Credit, 15% Density Credit, and 5% Minimized Surface Parking Credit, this Category C Special Project could qualify for up to 100% non-LID Treatment Reduction Credit (70% + 10% + 15% + 5% = 100%).

1. Order No. R2-2022-0018 is hereby amended as shown in this Order.
2. This Order shall become effective on November 1, 2023.

I, Eileen White, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 11, 2023.

Attachment I – Fact Sheet

#### ATTACHMENT I – FACT SHEET

This Fact Sheet describes the additional rationale and basis for this Order’s requirements beyond those set forth in the Fact Sheet for the San Francisco Bay Municipal Regional Stormwater Permit (MRP or Permit) (Order No. R2-2022-0018, NPDES Permit No. CAS612008).

##### Background

The Water Board adopted the Permit at a public hearing on May 11, 2022. The Permit regulates municipal stormwater discharges from those dischargers (Permittees) listed on page one of this Order and encompasses Alameda, Contra Costa, San Mateo, Santa Clara, and Solano counties in the San Francisco Bay region. In adopting the Permit, the Water Board asked staff to report back on certain Permit topics, such as the inclusion of low impact development (LID) or alternative treatment measures in Regulated Projects, as that term is defined in the Permit, and a review of Provision C.3.e.ii.(5) Category C Special Project (Affordable Housing) criteria and its potential impacts on housing costs. In response, the Water Board staff convened several workgroups on these and other topics. Through these workgroups, the Water Board received and reviewed new information related to alternative treatment systems and Category C Special Projects that gave cause to modify the Permit.

Specifically, this Order amends the Permit by adding Provision C.3.c.i.(2)(c)(iii) Alternative Treatment Systems to the Permit to allow certain Regulated Projects to treat runoff using an alternative treatment system. Those Regulated Projects for which it is technically infeasible to treat a portion of the Provision C.3.d design volume and/or flow via LID may use alternative treatment systems for that portion, as long as those systems meet the alternative treatment system requirements of Provision C.3.c.i.(2)(c)(iii). Among other requirements, this includes providing a demonstration of technical infeasibility of LID treatment systems and a demonstration of commensurate benefit. Commensurate benefit includes combining alternative treatment controls with flow controls so that the alternative treatment system’s water quality benefits (i.e., improvements to runoff quality and hydrologic benefits that benefit downstream water quality) are consistent with those provided by the Permit’s LID standard. To ensure this is the case, the area where alternative treatment systems are allowed is limited to areas where LID’s broader water quality benefits are relatively more limited, and the benefits provided by alternative treatment systems are comparable to LID.

This Order also modifies Permit Provision C.3.e.ii.(5) Special Projects: Category C to better align it with how affordable housing projects are planned and built in the region, and to exempt from Provision C.3.c and C.3.d temporary emergency homeless shelters for people experiencing unsheltered homelessness, instead requiring those projects to comply with Provision C.3.i and to implement relevant best management practices developed under Provision C.17. The modification better facilitates the construction of affordable housing, and temporary transitional shelters, that reduce~~s~~ water quality impacts associated with unsheltered homelessness.

##### Authority to Amend the Permit

The Water Board may amend the Permit with good cause pursuant to 40 C.F.R. §122.62(a)(2), if it receives new information that was not available at the time of the Permit’s issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance. After the Permit’s May 2022 issuance, the Water Board obtained new information, as described below, that would have justified revised Permit conditions if the information was available at the time of the Permit’s issuance. The Water Board developed the amendments to the Permit consistent with the new information and the Permit’s existing structure.

##### New Information Regarding the Equivalency of Alternate Treatment Systems Justifying the Addition of Provision C.3.c.i.(2)(c)(iii) Alternative Treatment Systems

In August 2022, following the Permit’s reissuance in May 2022, Water Board staff convened an Alternative Treatment Systems Workgroup, which met seven times through April 2023. Presentations and discussions in this workgroup produced new information which led to this Order’s addition of Provision C.3.c.i.(2)(c)(iii) related to alternative treatment systems. This new information, which we elaborate on below, included the following: (1) analysis of the equivalency of water quality benefits (including flow control) and urban greening benefits provided by LID systems and by alternative treatment systems; (2) identification of geographic areas in which flow control benefits are relatively less significant than in other geographic areas, thereby warranting in those areas allowance of alternative treatment systems in combination with systems providing flow control benefit; and (3) analogous requirements in other relevant MS4 NPDES permits, in particular the Washington State Department of Ecology’s (Ecology’s) series of MS4 NPDES permits and their use of Ecology’s Technology Assessment Protocol – Ecology (TAPE) program,[[15]](#footnote-16) which informed the Order’s use of the TAPE certification and, in part, the Order’s commensurate benefit approach. This new information resulted in a framework for where and how alternative treatment systems could be considered to provide commensurate water quality benefit as LID. The new information would have justified allowing alternative treatment systems in the manner allowed under this Order when the Permit was issued.

New information showed that alternative treatment systems, in combination with flow controls, have the potential to provide a commensurate water quality benefit as compared to LID systems. For example, the recent analysis of the 2018 San Francisco Estuary Institute (SFEI) study,[[16]](#footnote-17) which looked at performance both by LID systems and by non-LID media filters, supports this.[[17]](#footnote-18) In addition, new information showed that the flow control benefits of LID systems are relatively less significant in certain geographic areas in the region, namely areas draining stormwater to channels that are hardened continuously from the point of discharge to San Francisco Bay or the Pacific Ocean or that drain stormwater directly into San Francisco Bay, the Pacific Ocean, or other tidal waters.[[18]](#footnote-19) Accordingly, the Permit amendment limits alternative treatment systems to these areas.

New information on the analogous requirements in other relevant MS4 NPDES permits included the Western Washington Phase II MS4 Permit (and the Washington State Phase I MS4 Permit),[[19]](#footnote-20) which incorporates the TAPE program, under which Ecology reviews and certifies the performance (with respect to reductions in concentration) of alternative treatment systems. The Water Board received new information that the TAPE program ensures certified systems meet a minimum level of performance that is comparable to the Permit’s bioretention media performance in terms of pollutant concentration reductions at specified influent concentration ranges. New information on analogous requirements of other relevant MS4 NPDES permits includes the following: the North Coast Regional Water Quality Control Board’s Phase I MS4 Permit, which includes an onsite LID retention requirement and only allows onsite alternative treatment systems when onsite LID is determined to be technically infeasible and requires Executive Officer approval for implementation of offsite treatment measures; the Central Coast Regional Water Quality Control Board’s Phase I MS4 Permit, which includes an onsite LID retention requirement for nine out of ten watershed management zones; and the Los Angeles Regional Water Quality Control Board’s Phase I MS4 Permit, which includes an onsite LID retention requirement and only allows onsite alternative treatment systems when onsite LID is determined to be technically infeasible, subject to Executive Officer approval. Water Board staff also met with San Diego Regional Water Quality Control Board staff regarding their Phase I municipal regional stormwater permit,[[20]](#footnote-21) including that permit’s onsite retention requirement and its allowance of implementation of onsite non-LID only if the project provides offsite mitigation with equivalent retention.

Finally, the Water Board considered other jurisdictions’ requirements for onsite retention of a certain quantity of stormwater since onsite retention prevents pollutants in the retained runoff from being discharged to receiving waters and mitigates its hydromodification effects. While some of this information was available at the time of Permit issuance, other information (e.g., Pennsylvania’s work to update its stormwater manual) was received after the issuance. All the information was newly contextualized with consideration of the role that alternative treatment systems could play:

1. Anacostia, Washington, D.C.: Retain onsite the first one inch of rainfall and provide water quality treatment for rainfall up to the two-year storm volume; offsite mitigation is allowed when onsite retention is infeasible, but only at a ratio of either 1:1.5 (for physical offsets) or 1:2 (for in-lieu fee payments);[[21]](#footnote-22)
2. Central Coast, California (Regional Water Board, Phase II): Limit effective impervious area (EIA) at development projects to no more than 5 percent of total project area (interim criteria); establish an EIA limitation between 3 and 10 percent in local stormwater management plans (permanent criteria);[[22]](#footnote-23)
3. Federal Buildings over 5,000 square feet (under U.S. EPA’s draft guidance for implementation of the Energy Independence and Security Act of 2007): Manage onsite (i.e., prevent the offsite discharge of) the 95th percentile storm through infiltration, harvesting, and/or evapotranspiration;
4. Pennsylvania: Capture at least the first two inches of rainfall from all impervious surfaces and retain onsite at least the first one inch of runoff (through reuse, evaporation, transpiration, and/or infiltration); at least 0.5 inch must be infiltrated;[[23]](#footnote-24)
5. Philadelphia, Pennsylvania: Infiltrate the first one inch of rainfall from all impervious surfaces; if onsite infiltration is infeasible, the same performance must be achieved offsite;[[24]](#footnote-25) and
6. West Virginia: Retain onsite the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation.[[25]](#footnote-26)

##### Rationale and Basis for the Addition of Provision C.3.c.i.(2)(c)(iii) Alternative Treatment Systems

The modifications in the Order allow certain Regulated Projects to treat runoff using an alternative treatment system that has a commensurate benefit with LID treatment measures if LID treatment is infeasible and other requirements are met. This is consistent with the requirement in CWA section 402(p)(3)(B)(ii) to reduce the discharge of pollutants to the maximum extent practicable. Among other requirements, alternative treatment systems must be combined with flow controls so that their water quality benefits—improvements to runoff quality and hydrologic benefits that benefit downstream water quality—are consistent with those provided by the Permit’s LID standard. To ensure this is the case, the areas where alternative treatment systems are allowed are limited to areas where LID’s broader water quality benefits are relatively limited and the benefits provided by alternative treatment systems are relatively comparable to LID.

The modifications provide additional flexibility to ensure that in the rare situation when it is infeasible for a project to fully implement LID, the Regulated Project may provide water quality benefits consistent with the LID standard by completing a combination of other measures.

Provision C.3.c.i.(2)(c)(iii) requires projects to establish the need to implement alternative treatment systems and ensures consistent water quality benefits by requiring the submittal of a Demonstration of Infeasibility and a Demonstration of Comparable Benefit, respectively. In addition, as a prerequisite to the implementation of this provision, Permittees are required to submit a Regional Guidance Document that guides preparation of the demonstrations and facilitates project compliance with the alternative treatment system requirements.

Alternative treatment systems allowed under this provision are non-LID systems, such as high flow rate media filters, that have obtained an active General Use Level Designation certification for Enhanced Treatment from Ecology’s TAPE Program. This certification is intended to ensure a level of performance with respect to pollutant- concentration reduction, which when combined with flow control commensurate with that which is provided by LID, provides total water quality benefit that is comparable to the Permit’s LID standard. It was chosen in part because of the relative robustness of the TAPE Program, the TAPE Program’s applicability to urban runoff and controls in California, where removal mechanisms and conditions are similar, and California has not established its own similarly robust certification program and is unlikely to do so in the foreseeable future.

Alternative treatment systems are similar to the Permit’s LID standard in that they contain media similar to the bioretention media allowed pursuant to Provision C.3.c.i.(2)(c)(ii) that has similar unit processes for pollutant removal, including filtration, adsorption, and degradation over time of certain pollutants. However, there are differences between the alternative treatment systems and the Permit’s LID approach. Alternative treatment system media is typically contained within an impervious or largely impervious vault and is designed to have substantially higher flow rates of water through the media. As compared to bioretention cells, typically the most used water quality control within the LID framework, alternative treatment systems have limited to negligible flow control benefits due to limited storage within the device and minimal time and space for water to be detained prior to infiltration. This reduces pollutant load losses associated with the control because runoff that would infiltrate into the soil, be retained within the control, or evapotranspire in LID systems is, in an alternative treatment system, instead discharged through the media and back into the MS4 or to a receiving water. An additional result is reduced effectiveness of hydromodification management. To provide comparable benefit, alternative treatment systems must be supplemented with systems that provide flow control benefits at least equivalent to those provided by LID systems.

LID systems provide hydromodification management and associated water quality benefits via measures that include retention (e.g., via infiltration, evapotranspiration, and retention in an LID control’s media) and detention. Determining a comparable benefit between LID systems and alternative treatment systems is complicated because alternative treatment systems typically have negligible retention. In addition, while the flow control benefits of LID systems have been documented, the range of those benefits—including from infiltration into less infiltrative soils and horizontal infiltration—is not yet well quantified from monitoring data and field studies.[[26]](#footnote-27) Studies have, however, found greater benefit than would be expected from textbook infiltration values.[[27]](#footnote-28) Currently, approaches to quantify the flow control benefits are primarily hydrologic models that are imprecise and can be biased by the use of potentially non-conservative or inaccurate assumptions.

To address the potential consequences of that imprecision, the Permit limits the application of non-LID systems to two geographic areas in which LID systems have relatively less flow control benefit; that is, to areas where there is likely to be relatively less difference in flow control between LID systems and alternative treatment systems. If, in the future, the flow control benefits of LID systems are sufficiently studied and quantified in monitoring and field studies, such that their hydrologic benefits can be more reliably translated into flow control requirements including onsite retention and detention, the Water Board may consider incorporating the results of those studies into a future Permit. This would be done by specifying the required flow control benefits, including retention, that must be provided by flow control systems that are paired with media filters for alternative treatment systems. This could allow consideration of implementing those paired systems in a broader set of geographic areas. Work being done to advance the understanding of the flow control benefits of LID systems includes Provision C.8.d Low Impact Development Monitoring as well as studies elsewhere in the U.S.

The recognition that urban runoff water quality impacts are comprised of both pollutants directly in runoff and hydromodification that results in pollutant discharges and associated impacts is a significant issue and has informed the Permit’s design, which uses a three-part approach to address polluted runoff from new and redevelopment projects. The Permit requires: (1) design measures that provide source control of pollutants and reduce impervious surfaces and associated discharges of pollutants and hydromodification, which is the change in flows that can result in pollutant discharges; (2) controls that treat or remove pollutants and that also protect water quality by reducing hydromodification; and (3) specific hydromodification management controls for projects that create or replace an acre or more of impervious surface. Thus, hydromodification management is in two parts: the general benefit from LID systems, which applies to all Regulated Projects, and the controls required in Provision C.3.g, Hydromodification Management, which apply to Regulated Projects that create or replace an acre or more of impervious surface and increase the amount of impervious surface at the project site. This three-part approach was developed in part due to input into past permits from stakeholders, including U.S. EPA, the Natural Resources Defense Council (NRDC), and Baykeeper, who supported the Permit’s LID system approach and expressed concern that allowing alternative systems would result in less-effective water quality benefits with respect to direct pollutant reduction and flow control. NRDC and Baykeeper noted, for example:

…there is substantial history, precedent, and justification for requiring LID as the MEP control for the treatment of stormwater runoff from new and redevelopment projects; deviations from this standard must be carefully scrutinized to ensure the avoidance of unintended adverse impacts. These comments also emphasize the importance of flow control via discharge to vegetated areas, which is provided by LID systems.[[28]](#footnote-29)

Both have noted that where there was a deviation from the LID systems approach, it should be based on the technical infeasibility of both on- and off-site LID systems.

Similarly, U.S. EPA stated:

EPA is today emphasizing LID (also called “green infrastructure”) as a preferable approach to treating and reducing stormwater flow to MS4s[[29]](#footnote-30) and its inclusion in provisions of MS4 permits. EPA believes that LID is an approach to storm water management that is cost-effective, sustainable, and environmentally-sound. The effectiveness of landscape-based treatment for stormwater is generally superior to the “conventional” treatment addressed in section C.3.d of the proposed permit because landscape-based treatment can remove a broader range of pollutants in a more robust and redundant fashion, and can achieve multiple environmental and economic benefits in addition to reducing downstream water quality impacts, such as enhanced water supplies, cleaner air, reduced urban temperatures, increased energy efficiency and other community benefits such as aesthetics, recreation, and wildlife areas.[[30]](#footnote-31)

Additionally, LID measures are likely to be more resilient to failure over time than alternative treatment systems. All urban runoff water quality treatment controls are subject to potential failure due to causes such as improper design, installation, or operation and maintenance. Because alternative treatment systems with high-flow-rate media expose media to higher amounts of flow per unit area and volume, and because some vault-based systems may not be visible without removing a maintenance cover, potential failures (e.g., clogging of media by trash or sediment, breakthrough of pollutants) may be more significant and less likely to be timely addressed. The Permit addresses this by requiring Permittees to ensure appropriate design, installation, and operation and maintenance of all systems. However, this also supports the Permit’s continued prioritization of LID systems to provide water quality benefits.

To ensure alternative treatment systems are appropriately comparable to the Permit’s LID standard, the implementation of alternative treatment systems is contingent on Permittee submittal of two demonstrations to the Water Board: a Demonstration of Technical Infeasibility and a Demonstration of Commensurate Benefit. The requirements for these demonstrations are in Provisions C.3.c.i.(2)(c)(iii)c and C.3.c.i.(2)(c)(iii)d, respectively. Examples are included at the end of this section in Attachment A. Permittees must also re-submit the applicable portions of their Countywide Hydromodification Applicability Map to accurately identify the two geographic areas in which alternative treatment systems are allowed under the Permit.

Provision C.3.c.i.(2)(c)(iii)c.1. requires Permittees to submit a Demonstration of Technical Infeasibility to evaluate opportunities for implementation of offsite LID. If a Permittee’s municipal code precludes implementation of offsite LID elsewhere within its jurisdiction, or outside of its jurisdiction, or both, then that Permittee is encouraged to review its municipal code and consider changes to allow or more-flexibly allow implementation of offsite LID of the given kind(s).

Because guidance for these demonstrations has not yet been prepared, Permittees may implement this Provision only upon Executive Officer acceptance of a Regional Guidance Document submitted collectively by the Permittees to the Water Board. This document will also facilitate Permittee and project compliance with the Demonstration of Technical Infeasibility and the Demonstration of Commensurate Benefit. If the Executive Officer determines that the Regional Guidance Document is sufficiently detailed to enable Permittee review of demonstrations of technical infeasibility and commensurate benefits for Regulated Projects in a consistent, objective, and rigorous manner, the Executive Officer may allow Permittees[[31]](#footnote-32) to approve the Demonstration of Technical Infeasibility and the Demonstration of Commensurate Benefit for those Regulated Projects, in lieu of the requirement to receive Executive Officer approval of both demonstrations, contingent on Permittees implementing the approved Regional Guidance Document for those Regulated Projects. In future Permits, the Water Board may consider increasing flexibility for the implementation of alternative treatment systems depending on the Permittees' success in implementing this Provision and the state of knowledge about the equivalency of alternative treatment systems relative to LID systems.

The level of documentation submitted for each demonstration should reflect the significance and complexity of the proposed project. The Water Board does not anticipate the same level of evaluation will be necessary for each demonstration for all projects, since there is likely a correlation between the scope of the evaluation, demonstrated equivalency, and the potential extent of adverse impacts.

Provision C.3.c.i.(2)(c)(iii)c.2. requires Permittees to show – in the Demonstration of Technical Infeasibility – how LID was considered by both the project proponent and by the Permittee from the early stages of the project's planning and entitlement processes and how that resulted in the project’s final design. For example, Permittees could submit the following information: 1) when in the planning and entitlement process LID was considered, 2) the scope and results of that consideration, including the alternatives that were considered and why they were not implemented, and 3) the identification, conclusions, and recommendations of the Permittee’s responsible engineer and of the project proponent’s responsible engineer.

Reporting requirements have been added in the Order on the use of alternative treatment systems and are required pursuant to Clean Water Act section 308(a) and Water Code section 13383.

**Examples of Technical Infeasibility**

The following are examples of technical infeasibility which may aid Permittees’ preparation of the Demonstration of Technical Infeasibility required by Provision C.3.c.i.(2)(c)(iii).

* Examples of on-site technical infeasibility which are potentially acceptable:
	+ The project is a “zero lot line” development with no landscaping at ground level or at any other level; the project includes no open space that could incorporate LID measures; the roof slope is so great (e.g., 50 percent) that it precludes implementation of a green roof; the roof must be covered in solar panels and therefore cannot be designed as a green roof; stormwater runoff can be harvested from the site, but there is no feasible use for the harvested stormwater.
* Examples of on-site technical infeasibility which are likely not acceptable:
	+ *It is technically infeasible to treat 100 percent of the C.3.d volume/flow with on-site LID measures; therefore, no on-site LID will be included.* On-site LID must be maximized; it is not a binary option where there is either 100 percent LID treatment or no LID treatment.
	+ *The site is too flat to route stormwater runoff to LID treatment measures.* Different areas of the site could be graded as needed to direct stormwater runoff to LID treatment measures. If graded overland/sheet flow cannot provide sufficient hydraulic head, bubblers can be used. If neither graded overland/sheet flow nor bubblers can provide sufficient head, pumping should be considered.
	+ *Long lengths of plumbing from the podium/courtyard level within the retail spaces to the frontage are impracticable.* This does not provide enough detail to explain why this is infeasible.
	+ *Due to the dynamic nature of retail spaces and limited frontage space, placing ground-level planters in front of retail spaces imposes a heavy constraint on retail door locations.* To the extent that retail door locations may change over time, the constraint of being limited to existing door locations is commensurate with the water quality benefit provided by the LID treatment measures. LID measure locations may also be modified as door locations and their associated entry paths are moved.
	+ *This landscaping strip is too narrow to be designed as bioretention.* Because there are many examples of bioretention designed in narrow strips, this does not provide enough detail to explain why this is infeasible, and additional justification is required.
* Examples of off-site technical infeasibility which are potentially acceptable:
	+ There are no opportunities in the adjacent public right-of-way (ROW) to implement LID measures that would treat the Provision C.3.d volume/flow from the project; there are no opportunities in the adjacent/nearby public ROW to implement (or contribute to the implementation of) LID measures that would treat the Provision C.3.d volume/flow from the project and potentially also from other projects and portions of the public ROW; there are no opportunities elsewhere within the city or county, including other municipalities within the county, to implement LID systems that would treat an amount of stormwater runoff (from an equally-polluting tributary drainage area) that is no less than the Provision C.3.d volume/flow for the project; there are no opportunities to contribute commensurate funding/resources to a project identified in a city’s or county’s Green Stormwater Infrastructure Plan.
* Examples of off-site technical infeasibility which are likely not acceptable:
	+ *The project proponent does not own or otherwise control land within the same watershed of the project that can accommodate off-site bioretention facilities adequately sized to treat the required Provision C.3.d volume/flow.* The project proponent could contribute to a planned/potential project on land owned or controlled by another party (e.g., the city, county, or other municipalities within the county).
	+ *There is no county/regional LID stormwater mitigation program available to the project for in-lieu Provision C.3 compliance.* The project proponent could come to agreement with the city, county, or other municipalities within the county, on a “one-off” project (e.g., in the adjacent/nearby public ROW) as a condition of project approval.
	+ *The City does not want to be responsible for a Regulated Project’s Provision C.3 compliance on its public ROW, because it restricts what the City can do with that section of ROW*. Municipalities routinely require extensive reconstruction of the adjacent public ROW as a condition of approval on private redevelopment projects; if such a project did include LID measure(s) in the reconstruction public ROW, it is unlikely that the municipality would want to change the ROW in such a way that would require removal of the LID measure(s) located in that ROW. Regardless, this provision is optional, and municipalities may choose to require project proponents to implement on-site LID treatment in lieu of off-site LID treatment.

**Examples of Commensurate Benefit:**

The following are examples of types of BMPs and projects that could be used to achieve commensurate flow control benefit (i.e., an equivalent amount of flow control benefit as would have been provided by the project if the project were to implement LID), which may aid Permittees’ preparation of the Demonstration of Commensurate Benefit required by Provision C.3.c.i.(2)(c)(iii).

* Examples of flow control systems that could be used to achieve commensurate flow control benefit, that are potentially acceptable:
	+ Harvesting and use; systems that provide sufficient retention; systems that provide sufficient infiltration.
* Examples of flow control systems that could be used to achieve commensurate flow control benefit that are likely not acceptable:
	+ Systems that inappropriately assume highly infiltrative native soils.

##### New Information Justifying, and Rationale and Basis for, Amendments to Provision C.3.e.ii.(5) Category C Special Projects

As stated earlier, when the Water Board adopted the Permit, it asked staff to review Provision C.3.e.ii.(5) Category C Special Project (Affordable Housing) criteria and potential impacts on housing costs. Additionally, the Board received comments expressing concern that the criteria were too prescriptive, or otherwise did not mesh well with the range of affordable projects being built and had the potential to conflict with incentive programs that had been established to support affordable housing production. In response, the Water Board staff convened a workgroup to consider those issues and received and reviewed new information to better inform the Water Board’s understanding of how the criteria work with the range of affordable housing projects being built. Specifically, in September 2022, Water Board staff convened a Category C Special Projects/Affordable Housing Workgroup, which met seven times between September 2022 and April 2023, to discuss Category C Special Project criteria. The Workgroup was co-led by Permittees’ staff and Water Board staff. Workgroup participants included non-profit/affordable housing advocates, for-profit housing advocates, municipal housing authorities, Permittees, Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG), engineering consultants, business groups, and others. Workgroup participants gave presentations on the following topics: 1) Definitions of affordable housing; 2) The kinds of projects implemented in the region that include affordable housing; 3) Concerns about how those affordable housing projects may be affected by the Permit’s Category C Special Project Criteria; and 4) Recommended changes to Category C Special Projects. The Workgroup additionally considered potential effects of Provision C.3.e.ii.(5) on housing generally, including infill housing.

The new information presented at the Workgroup and reviewed by Water Board staff did not identify a cost impact from the Permit’s LID standard that was different from the cost of alternative treatment systems. Additionally, Workgroup discussions and the Water Board’s review of incentive programs and related information determined that there was not a conflict with the incentive programs. However, the information demonstrated that the Category C criteria in the Permit, as issued, would in practice apply primarily to fully affordable projects constructed by public or non-profit entities. The criteria had the effect of excluding from potential flexibility certain projects (primarily for-profit projects) that provided affordable housing but were not fully affordable. That was not the intent and, thus, there was an opportunity to better align the Category C criteria with the full range of affordable projects being built in the region and their associated water quality benefits, while still focusing on maximizing flexibility (through credits) for the most affordable housing. The result is that the criteria were modified to provide maximum flexibility for the fully affordable projects being built by public and non-profit entities, and to give sliding-scale flexibility for projects with lesser amounts of affordable housing—more typically projects built by for-profit developers. “Sliding-scale flexibility” means that the more a project that is affordable and the more a project’s affordable units are targeted to residents in lower-income categories, the greater flexibility is provided. This is appropriate because of how costs are apportioned across projects (projects that are more affordable are generally harder to build) and because projects targeted to residents in lower-income categories are more likely to provide a water quality benefit by shifting residents into housing from being unsheltered.

Water Board staff reviewed additional information, including state, regional, and local laws, policies, and programs regarding affordable housing. These included MTC’s Housing-Oriented Transit Fund, Housing Incentive Pool, One Bay Area Grant Program, Bay Area Preservation Pilot Fund, and the Regional Housing Needs Allocation (RHNA). They also included Senate Bill 35, which allows developers’ applications for housing projects to receive streamlined ministerial review and approval, bypassing the local municipality’s requirements for discretionary approval, provided that the local municipality has not achieved its RHNA; Assembly Bill 2011, which allows developers to build residential projects in areas zoned commercial, and allows California Environmental Quality Act exemptions for projects that are 100 percent affordable; Senate Bill 9, which allows homeowners to subdivide single-family residential lots into up to four units; and the California Density Bonus Law, which provides housing developers with a density bonus and additional incentives and concessions based on the amount of affordable dwelling units (DUs) included in housing projects. This review informed how the Permit structures the flexibility criteria to better address the range of affordable projects being built and confirmed that the Order’s flexibility criteria, which are consistent with the approach in the California Density Bonus Law, were not in conflict with existing affordable housing laws, policies, or programs.

The Workgroup discussed local-level implementation of affordable housing plans, policies, and guidance. At the local level, many municipalities have established their own definitions of affordable housing and their own ordinances, policies, and programs to incentivize affordable housing. For example, the City of Oakland’s Construction Innovation and Expanded Housing Options Ordinance[[32]](#footnote-33) allows residential occupancy of recreational vehicles (RVs) and tiny homes on wheels (“Vehicular Residential Facilities”) on private property and allows mobile homes and manufactured homes in all zoning districts where residential uses are permitted.[[33]](#footnote-34) This new information reinforced that public and non-profit entities typically are those who are building fully affordable projects, while private investors typically are building projects for which only a portion of the project’s dwelling units are affordable. The new information supported both the need for revised criteria that apply to the range of affordable projects being built in the region and the decision to provide more flexibility to projects that are relatively more affordable.

In addition, staff reviewed the California Tax Credit Allocation Committee’s (CTCAC’s) database of qualifying projects that have received tax credits through the federal and state Low-Income Housing Tax Credit Programs, which were created to promote private investment in affordable rental housing for low-income Californians. Using the database, data were summarized for qualifying affordable housing projects in Alameda, Contra Costa, San Mateo, Santa Clara, and Solano counties between 1990 and 2022, and the results indicate that nearly 100 percent of those projects that received State or Federal affordable housing tax credits would qualify for the maximum non-LID Affordable Housing Credit in the proposed amendment to Category C. These data are summarized in the figure below; “below-moderate DUs” refers to dwelling units that are restricted to households with incomes less than or equal to 80% of area median household income (AMI). In other words, fully affordable housing projects and nearly-fully affordable housing projects will receive the full flexibility of Category C.



This review of more than thirty years of subsidized projects supports the Order’s focus in providing the maximum flexibility to those projects that are most affordable and confirms that the surveyed projects would qualify for that flexibility.

The Workgroup discussed comments on a draft of the Permit that expressed general concern that the approach could conflict with affordable housing expectations in state law or could be perceived as intended to drive state policies on affordable housing. Through the Workgroup, the Water Board received new information about the range of programs on affordable housing, the limited coordination of those programs, and the perception of Sacramento policymakers that a regional stormwater permit provision providing flexibility on clean water requirements relative to a project’s affordability could instead be viewed as a driver of housing policy statewide. As a result, revised criteria were developed as described herein, to better align with the range of affordable housing projects being built in the region. In addition, a statement is added to the Permit’s existing Fact Sheet clarifying that the Water Board is not a local land use agency, and that Permit flexibility is intended to be applied to projects as they appear, not to drive housing policy.

Finally, Water Board staff reviewed reports of housing production in Permittee jurisdictions and how it was meeting the Regional Housing Needs Allocation (RHNA) goals, along with information provided by the building industry on average profits for for-profit single-family housing projects during the Great Recession. This was done in part to consider whether Category C should be expanded to include “market-rate” projects that did not have any affordable units.

According to the California Department of Housing and Community Development’s Housing Element Implementation and Annual Progress Report Dashboard,[[34]](#footnote-35) for the fifth RHNA cycle (2015-2022), statewide, Bay Area, and countywide RHNA attainment numbers are as shown in the table below. Taken together, these data suggest that MRP Permittees are producing market-rate units significantly in excess of their identified RHNA targets. However, it indicates that there is a shortage of affordable units, with a worse shortage for the lower income brackets, which are the income brackets more likely to experience homelessness.

|  |
| --- |
| RHNA 5th Cycle (2015-2022)  |
|   | RHNA Attainment  |
| County  | Above-Moderate Units  | Moderate Units  | Low Units  | Very Low units  |
| Alameda  | 227%  | 22%  | 38%  | 40%  |
| Contra Costa  | 218%  | 68%  | 58%  | 23%  |
| San Mateo  | 194%  | 48%  | 85%  | 44%  |
| Santa Clara  | 186%  | 69%  | 30%  | 25%  |
| Solano  | 245%  | 132%  | 66%  | 18%  |
| 5-County Total[[35]](#footnote-36) | 208%  | 55%  | 44%  | 31%  |
| 9-County Total[[36]](#footnote-37) | 202%  | 57%  | 52%  | 37%  |
| California Total  | 143%  | 55%  | 30%  | 20%  |

Permit Provision C.3.e.ii.(5) allows certain Regulated Projects that provide affordable housing to treat runoff using an alternative treatment system consisting of either a high flow rate tree well filter or a high flow rate media filter. This Order’s modifications retain that structure, which continues to allow additional flexibility for a project’s density, location near transit, and minimized surface parking. However, the modifications:

(1) align the calculation of affordable housing alternative treatment system flexibility relative to the amount of affordable housing in a project, so that the provision better achieves its intended goal of providing flexibility for the range of affordable housing projects being constructed while still protecting water quality;

(2) maximize the alternative treatment system benefits for projects that are fully affordable to lower-income residents, thus providing the most flexibility to those projects that provide the greatest potential water quality benefit. This is facilitated in part by adding the “acutely low” income category to the criteria and flexibility calculation, which recognizes those projects for which all or a component are targeted to that income category;

(3) recognize that managers’ dwelling units typically are not targeted as affordable, but are present in otherwise affordable projects, and so excludes them from deed restriction requirements and for the purposes of considering a project’s affordability and the flexibility provided under this provision;

(4) define what a “primarily residential” project is for the purposes of determining whether it qualifies for the affordable housing flexibility in a manner that is consistent with the definition of housing development in Government Code section 65589.5(h);

(5) state that the “…total maximum LID Treatment Reduction Credit for any Category C Special Project may not exceed 100 percent.” This is not a substantive change, but rather a clarification made to avoid potential confusion. Since a project must treat 100 percent of the amount of runoff required to be treated under the Permit, the maximum flexibility necessarily is also 100 percent. To have a greater amount would be meaningless; and

(6) correct, pursuant to 40 CFR section 122.62(a)(15), the Fact Sheet with information available after the Permit was reissued regarding the total acreage of projects that used Category C under the previous Permit, changing it to 414 acres from “approximately 324 acres.”

The Order also modifies reporting requirements in line with the changes to the Category C Special Projects provision and are required pursuant to CWA section 308(a) and Water Code section 13383.

Provision C.3.e.ii.5.(c) revises the Permit’s Affordable Housing Credit calculation to provide greater benefit to projects that are relatively more affordable and are made up of a relatively greater percentage of affordable housing. It provides the most flexibility to projects that are fully affordable. The modifications continue to be justified based on the water quality benefit provided by housing residents who are unsheltered, and thus reducing the substantial discharges of pollutants, including trash and sewage, from unsheltered residents. The result is that significantly affordable projects, and essentially all public and non-profit projects, have maximum flexibility. However, relatively less-affordable projects are still given flexibility that recognizes their contribution to reductions in polluted discharges associated with unsheltered homelessness. These revisions were made in consultation with Workgroup participants, including Permittees and non-profits providing affordable housing, to better reflect the range of projects constructed in the region and to recognize that the most affordable projects (which provide the greatest potential water quality benefit) may also have the greatest barriers to being built. In addition, the Water Board consulted with Association of Bay Area Governments (ABAG)/Metropolitan Transportation Commission (MTC) staff on Plan Bay Area and the Regional Housing Needs Analysis and considered the California Tax Credit Allocation Committee’s (CTCAC’s) database of qualifying projects that have received tax credits through the federal and state Low-Income Housing Tax Credit Programs, which were created to promote private investment in affordable rental housing for low-income Californians.[[37]](#footnote-38) The results indicate that for the five Bay Area MRP counties, nearly 100 percent of the projects that received state or federal affordable housing tax credits would qualify for the maximum non-LID Affordable Housing Credit in the amendment. That indicates the revisions are appropriately targeting the maximum flexibility to those projects that provide the maximum potential water quality benefit. Additionally, the Water Board reviewed housing laws including the California Density Bonus Law and retained the provision’s sliding scale of benefits for projects that are relatively more affordable, although the scale was simplified to facilitate its use and give flexibility to projects (typically for-profit projects) that have a more modest amount of affordable units, but are still expected to provide water quality benefit. The information regarding affordability needed to use this provision (e.g., number of units, relative affordability, deed restrictions) is already typically used as a part of laws including the Density Bonus Law. As such, it should be readily available to use to calculate the Affordable Housing Credit.

Provision C.3.e.ii.5.(c) allows for up to three managers’ dwelling units to be excluded from deed restriction requirements. This is to recognize that while managers’ dwelling units are necessary to support larger affordable housing projects, they are typically not deed-restricted affordable units, which is information the Water Board did not have at the time of Permit issuance. It is reasonable to exclude them because they are necessary to the operation of certain affordable housing projects and excluding them supports the measure’s intended goal of supporting affordable housing by providing flexibility relative to a project’s overall affordability.

Provision C.3.e.ii.5.(a)(i) has been revised to clarify the definition of primarily residential projects, based on new information provided during the Workgroup participants that affordable housing projects are facilitated through allowing mixed uses. The modification allows projects that provide affordable housing, and thus associated water quality benefits, to benefit from allowed flexibility, even if up to one-third of their square footage is dedicated to other uses (e.g., commercial). It appropriately recognizes that affordable housing projects are not exclusively single-use (i.e., residential), and sets a reasonable threshold for mixed use to retain the provision’s affordable housing focus and ensure water quality remains appropriately protected.

Provision C.3.e.ii.5 has been revised to exempt from Provision C.3.c and C.3.d temporary emergency homeless shelters for people experiencing unsheltered homelessness, instead requiring those projects to comply with Provision C.3.i and to implement relevant best management practices developed under Provision C.17. Should the use become permanent, or if there is a new Regulated Project and/or Special Project at the site, the project shall comply with Provision C.3, including Provisions C.3.c and C.3.d. The revision facilitates the construction of temporary emergency housing for people experiencing unsheltered homelessness, which reduces discharges of trash and sewage associated with unsheltered homelessness. It is limited because the exemption is removed if the use becomes other than temporary, or if a new Regulated Project or Special Project is constructed at the site. It is further limited because it applies only to temporary emergency housing projects that would have otherwise been Regulated Projects. Many temporary emergency housing projects are not Regulated Projects because they do not create or replace impervious surface (e.g., RV safe parking areas and cabin communities constructed on existing paved areas). It has been included because of the ongoing significant populations of residents experiencing unsheltered homelessness within MRP Permittee jurisdictions, because of the increasing recognition of the benefits of temporary transitional housing by Permittees including Oakland and San Jose,[[38]](#footnote-39) and Permittee recognition of temporary transitional housing as a practice that can address unsheltered homelessness and the non-stormwater discharges associated with it.[[39]](#footnote-40) The revision recognizes new information that justifies excluding temporary emergency homeless shelters from compliance with Provisions C.3.c-d. This information includes the Bay Area Municipal Stormwater Collaborative report, dated September 30, 2023, “Regional Best Management Practices Report for Addressing Non-Stormwater Discharges Associated with Unsheltered Homeless Populations.” At the time of Permit amendment, the Report had been recently submitted and was under review by the Water Board. The report recognizes temporary emergency homeless shelters, such as managed RV safe parking areas and managed encampment sites like “cabin communities,” as tools in transitioning to shelter Bay Area residents experiencing unsheltered homelessness, and thus reducing associated non-stormwater discharges. Similarly, there is new information on the shifts in effort by MRP Permittees, including the cities of Oakland and San Jose, to increase focus on temporary emergency housing as one tool in the toolbox of reducing unsheltered homelessness. This includes the City of San Jose’s five-year municipal budget projection (e.g., Expenditure Forecast: “In addition, the City has committed the remaining $56.6 million of federal funding from the American Rescue Plan Act to augment and continue critical pandemic response and recovery programs in 2022-2023, including Emergency Interim Housing Construction and Operation, child and youth services investments, contractual services for Beautify San José Consolidated Model, SOAR Expansion, and Digital Equity, which will also be re-evaluated for continuation in 2023-2024 in consideration of ongoing community needs." p.54 of 184, <https://www.sanjoseca.gov/home/showpublisheddocument/95049/638134342380800000>). And the Water Board considered newly published references indicating that temporary emergency housing is part of the set of tools needed to address unsheltered homelessness.

##### Antidegradation

Federal and state antidegradation policies at 40 CFR section 131.12 (federal antidegradation policy) and State Water Board Resolution No. 68-16 (state antidegradation policy) require that high quality waters be maintained unless degradation is justified based on specific findings. The federal antidegradation policy also requires existing instream uses and the level of water quality necessary to protect those uses be maintained and protected. Here, the baseline water quality against which any potential degradation resulting from this Order is measured is the level authorized in the Permit.[[40]](#footnote-41) The modifications in this Order do not authorize any lowering water quality as compared to the Permit such that no antidegradation analysis is required. The Administrative Procedures Update, Antidegradation Policy Implementation for NPDES Permitting, 90-004 (APU 90-004), provides that no antidegradation analysis is required where the regional water board has no expectation that water quality will be reduced by the permitting action. That is the case here. This Order’s modification to allow alternative treatment systems will not result in lower water quality because their use is limited to situations where LID measures are infeasible and backstopped by a requirement to demonstrate commensurate benefit to LID measures. In addition, their use is limited geographically to stormwater discharges that drain into continuously hardened channels or that drain directly into San Francisco Bay, the Pacific Ocean, or other tidal waters, and includes flow controls commensurate with those provided by LID systems, so that stormwater flows will not cause downstream erosion and mobilize sediments and pollutants. The non-LID component of the alternative treatment system also must be TAPE-certified, which ensures a minimum level of performance that is comparable to the Permit’s LID performance in terms of pollutant concentration reductions. Collectively, these requirements prevent lowering of water quality.

This Order’s modification to the Permit’s Category C Special Projects will similarly not result in lower water quality in receiving waters. Category C Special Projects employing alternative treatment systems will account for a very small footprint, because the systems can only be used after establishing the infeasibility of treating 100 percent of the amount of runoff identified in Provision C.3.d (Numeric Sizing Criteria for Stormwater Treatment Systems) for the Regulated Project’s drainage area with LID treatment measures onsite, offsite, through paying in-lieu fees, or a combination thereof. LID treatment measures are highly achievable and cost-effective such that they can be employed in most instances. The Order changes the method for calculating affordable housing credits from fixed credits to a sliding scale of credits, with the maximum credits granted to affordable housing projects with dwelling units for acutely low household incomes. This revised method will slightly increase allowed drainage area that may be treated with non-LID measures as compared to the area allowed by the original method. However, the allowed non-LID treatment systems are alternative treatment systems, which new information shows are as effective as LID measures in reducing pollutant concentrations. Any potential water quality impacts from the slight increase in the drainage area treated with alternative treatment systems would be minor and offset by the benefits of implementing Category C Special Projects. First, as determined by the Water Board in each of the regional municipal stormwater permits issued to date, when considered on a watershed scale, certain smart growth or high-density projects—like Category C Special Projects—can reduce existing impervious surfaces or create less accessory impervious areas and car-related pollutant impacts, all of which reduce the discharge of stormwater pollutants into waters. Because of this, the Water Board established incentive LID treatment reduction credits for certain special projects like Category C Special Projects. Second, the projects that qualify for Category C credits will provide housing that will reduce unsheltered homelessness and its associated non-stormwater discharges into receiving waters within Permittee jurisdictions, thereby improving water quality. Significant impacts to water quality can occur and has occurred from unsheltered homelessness in the region (e.g., from trash and raw sewage).

##### Antibacksliding

This Order complies with the anti-backsliding provisions of CWA, which generally requires new effluent limitations to be as stringent as those in the previous order. CWA section 402(o) prohibits revising an existing effluent limitation that was established on a case-by-case basis using best professional judgment under CWA section 402(a)(1)(B) to an effluent limitation that reflects subsequently promulgated, less stringent effluent guidelines. It also prohibits relaxing an existing effluent limitation established pursuant to CWA sections 301(b)(1)(C) or 303(d) or (e). CWA section 402(o) does not apply here because the changes to the Permit in this Order are not based on either revised effluent limitation guidelines or CWA section 301(b)(1)(C) or section 303(d) or (e); rather, they are based on CWA section 402(p)(3)(B).

It is unclear if the regulatory anti-backsliding prohibition at 40 CFR section 122.44(l) applies to municipal stormwater permits. This is unnecessary to resolve because assuming for the sake of argument that it applies, even though this Order’s changes are not necessarily less stringent, the changes qualify for an exception to backsliding. Both the CWA and federal regulations contain exceptions to the anti-backsliding requirements where new information is available to the permitting authority that was not available at the time of the issuance of the prior permit and that would have justified the imposition of less stringent effluent limitations at that time. See 33 USC § 1342(o)(2)(B)(i); 40 CFR § 122.44(l)(1) anti-backsliding does not apply if the circumstances on which the previous permit was based have materially and substantially changed and would constitute cause for permit modification under 40 CFR section 122.62 [e.g., where new information that was not available at the time the previous permit was issued and would have justified the different requirements]; see also 40 CFR §122.44(l)(2)(i)(B)(1). As explained elsewhere in this Fact Sheet, there is new information that was not available at the time of the Permit’s adoption that would have justified the application of different requirements at that time.

##### Public Participation

A. **Notification of Interested Parties**. The Water Board notified the Permittees and interested agencies and persons of its intent to amend the Permit with this Order and provided an opportunity to submit written comments. The public had access to the agenda and any changes in dates and locations through the Water Board’s website at http://www.waterboards.ca.gov/sanfranciscobay. The Water Board also notified potentially affected disadvantaged communities and tribal communities of this Order and provided them with an opportunity to engage prior to the public comment period.

B. **Written Comments**. Interested persons were invited to submit written comments concerning the draft Order as explained through the notification process. Comments were to be submitted to RB2-MRP@waterboards.ca.gov or to the Water Board at 1515 Clay Street, Suite 1400, Oakland, California, to the attention of Derek Beauduy. For Water Board consideration, the written comments were due via email or at the Water Board office by 5:00 p.m. on August 21, 2023.

C. **Public Hearing**. The Water Board held a public hearing on the Order during its regular meeting at the following date, time, and location:

Date: October 11, 2023

Time: 9:00 a.m.

Location: Elihu Harris State Office Building

1515 Clay Street, 1st Floor Auditorium

Oakland, CA 94612

Contact: Derek Beauduy, (510) 622-2348 derek.beauduy@waterboards.ca.gov

Interested persons were invited to attend. At the public hearing, the Water Board heard testimony pertinent to the Order.

The Water Board web address is http://www.waterboards.ca.gov/sanfranciscobay, where one could access the current agenda for changes in dates and locations.

D. **Reconsideration of Amendment**. Any aggrieved person may petition the State Water Board to review the Water Board decision regarding this Order.

For instructions on how to file a petition review, see [www.waterboards.ca.gov/public\_notices/petitions/water\_quality/wqpetition\_instr.shtml](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml).

E. **Information and Copying**. Supporting documents and comments received are on file and may be inspected at the address above between 9:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged by calling (510) 622-2300.

G. **Additional Information**. Requests for additional information or questions regarding this Order should be directed to Derek Beauduy at (510) 622-2348 or derek.beauduy@waterboards.ca.gov.

1. The Approved Portion is the portion of the Provision C.3.d design volume/flow that may be treated using non-LID treatment measures, as substantiated in the Demonstration of Technical Infeasibility and Demonstration of Commensurate Benefit that have been approved by the Executive Officer. [↑](#footnote-ref-2)
2. <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies> [↑](#footnote-ref-3)
3. Examples for the Demonstrations of Technical Infeasibility and Commensurate Benefit are provided in the Fact Sheet. [↑](#footnote-ref-4)
4. Landscaping opportunities include, but are not limited to: roofs, terraces, patios, courtyards, plazas, quadrangles, athletics areas, outdoor pool areas, playgrounds, parks, bike-separation strips, and adjacent public sidewalks, roads, and rights of way (ROWs). [↑](#footnote-ref-5)
5. “Implement” in this paragraph is defined to include not only direct implementation by the project proponent, but also indirect implementation via contribution of funding and/or resources to another entity which will construct and/or maintain an equivalent amount of LID. [↑](#footnote-ref-6)
6. The Permittee in whose jurisdiction the project is located. [↑](#footnote-ref-7)
7. Emergency homeless shelters constructed pursuant to and consistent with Government Code § 8698.4, including the definition of “homeless shelter” in subdivision (c), and that are temporary are not Regulated Projects under Provision C.3.b. As such, they are not subject to Provisions C.3.c (Low Impact Development) and C.3.d (Numeric Sizing Criteria for Stormwater Treatment Systems) and shall instead comply with Provision C.3.i (Site Design Measures for Small Projects) and implement relevant best management practices developed under Provision C.17 (Discharges Associated with Unsheltered Homeless Populations). Should the homeless shelter become permanent and the impervious surfaces it created or replaced meet the thresholds for a Regulated Project, or if there is a new Regulated Project and/or Special Project at the site, the project shall comply with Provision C.3, including Provisions C.3.c and C.3.d. [↑](#footnote-ref-8)
8. At least two-thirds of the square footage of the project must be designated for residential use. [↑](#footnote-ref-9)
9. ~~https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits.shtml~~<https://www.hcd.ca.gov/grants-and-funding/income-limits/state-and-federal-income-rent-and-loan-value-limits> [↑](#footnote-ref-10)
10. As of ~~December 31, 2021~~June 6, 2023, they are: ~~https://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/income-limits-2021.pdf~~ <https://www.hcd.ca.gov/sites/default/files/docs/grants-and-funding/income-limits-2023.pdf> [↑](#footnote-ref-11)
11. DUs that are free to tenants, i.e., that do not charge tenants any rent/mortgage, are included in this category. [↑](#footnote-ref-12)
12. Batko, Oneto, and Shroyer, Dec. 2020. Unsheltered Homelessness: Trends, Characteristics, and Homeless Histories. Urban Institute, pp. 12-13.

Kushel, Moore, et al., June 2023. Toward a new understanding: The California statewide study of people experiencing homelessness. UCSF. Incl. pp. 83-84.

See also Fact Sheet Sections C.10-5(4) (Attachment A – 234), C.10.f.ii (Attachment A, p. A-247), and C.17 (Attachment A, p. A-326) for discussion of the adverse water quality impacts of unsheltered homelessness. [↑](#footnote-ref-13)
13. Examples of temporary emergency housing projects are: formal “community cabin” or tent communities; RV safe parking areas; and homeless “navigation centers” with housing, that are temporary and provide housing for people experiencing unsheltered homelessness. [↑](#footnote-ref-14)
14. Examples of additional best management practices that could be considered include, but are not limited to, those described in the Bay Area Municipal Stormwater Collaborative report, dated September 30, 2023. “Regional Best Management Practices Report for Addressing Non-Stormwater Discharges Associated with Unsheltered Homeless Populations.” At the time of Permit amendment, the Report had been recently submitted and was under review by the Water Board. [↑](#footnote-ref-15)
15. [<https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies>](https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Emerging-stormwater-treatment-technologies) [↑](#footnote-ref-16)
16. Gilbreath, A.; Pearce, S.; Shimabuku, I.; McKee, L. 2018. Bay Area Green Infrastructure Water Quality Synthesis. SFEI Contribution No. 922. San Francisco Estuary Institute: Richmond, CA. https://www.sfei.org/documents/bay-area-green-infrastructure-water-quality-synthesis [↑](#footnote-ref-17)
17. Water Board review of 2018 SFEI study “Bay Area Green Infrastructure Water Quality Synthesis,” May 2023. The Water Board analysis of the 2018 SFEI study indicates that it is not clear that media filters have significantly greater performance than LID systems, given the small sample size of media filters (2) compared to LID facilities (8) in the study, the range of influent concentrations for each monitored system, and the study’s self-identified limitations. [↑](#footnote-ref-18)
18. While not new information, the Water Board also considered general information regarding potential increases to near-Bay groundwater elevations associated with rising tides, because higher groundwater levels can reduce infiltration from a treatment control into the surrounding ground when they are close to the bottom of the control. [↑](#footnote-ref-19)
19. <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Municipal-stormwater-general-permits> The Phase II MS4 Permit thresholds that trigger the requirement to include onsite treatment control measures are significantly lower than the MRP’s thresholds, and a baseline expectation that post-construction discharge rates match the pre-development condition (i.e., “make it better”). This contrasts with the MRP’s baseline less-stringent expectation that post-construction discharge rates only match the pre-construction condition (i.e., “don’t make it worse”). [↑](#footnote-ref-20)
20. <https://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/> [↑](#footnote-ref-21)
21. Anacostia Waterfront Corporation (June 1, 2007) Final Environmental Standards, p. 16; *See also*, State Water Resources Control Board (December 2007) A Review of Low Impact Development Policies: Removing Institutional Barriers to Adoption, at 20-21. [↑](#footnote-ref-22)
22. Central Coast Regional Water Quality Control Board, Letter from Roger Briggs re: Notification to Traditional, Small MS4s on Process for Enrolling under the State’s General NPDES Permit for Storm Water Discharges (Feb. 15, 2008). [↑](#footnote-ref-23)
23. Pennsylvania Department of Environmental Protection (December 30, 2006) *Pennsylvania Stormwater Best Management Practices Manual*, Chapter 3, p.7. Additionally, Pennsylvania is currently completing an update to the Manual (in draft as of Dec. 2022) that continues to focus on management of volume as a key component of water quality and recognizes the increased importance of that aspect as the result of climate-change-driven changes in precipitation intensity, depth, and frequency. Furjanic, Traver, Bowen, and Hess, Nov. 2022. PA DEP Stormwater Manual Updates (slide presentation). [↑](#footnote-ref-24)
24. City of Philadelphia, Philadelphia Stormwater Regulations § 600.5; City of Philadelphia (2006) *Philadelphia Stormwater Management Guidance Manual: Version 2.0*, Section 1-1, Appendix F.4.1. [↑](#footnote-ref-25)
25. State of West Virginia (December 11, 2008) Department of Environmental Protection, Division of Water and Waste Management, Draft General National Pollution Discharge Elimination System Water Pollution Control Permit, NPDES Permit No. WV0116025, pp. 13-14. [↑](#footnote-ref-26)
26. Geosyntec and Wright Water Engineers, January 2011. International Stormwater BMP Database Technical Summary: Volume Reduction (www.bmpdatabase.org).

Geosyntec and Wright Water Engineers, May 2012. International Stormwater BMP Database Addendum 1 to Volume Reduction Technical Summary (January 2011). Expanded Analysis of Volume Reduction in Bioretention BMPs (www.bmpdatabase.org).

Braswell, et al., Oct. 2018. Hydrologic and water quality performance of permeable pavement with internal water storage over a clay soil in Durham, North Carolina. J. Environmental Mgmt. 224:277-287.

Contra Costa Clean Water Program, September 15, 2013. IMP Monitoring Report, chapters 6-7.

Winston, et al., May 2016. Quantifying volume reduction and peak flow mitigation for three bioretention cells in clay soils in northeast Ohio. Science of the Total Environment 553:83-95. [↑](#footnote-ref-27)
27. Ibid. [↑](#footnote-ref-28)
28. NRDC and Baykeeper comment letter on the Revised Tentative Order for MRP 1, April 3, 2009. [↑](#footnote-ref-29)
29. EPA et al., Green Infrastructure Statement of Intent, April 19, 2007, available at <http://www.msdgc.org/downloads/wetweather/greenreport/Files/Green_Report_Exhibit_A.pdf> [↑](#footnote-ref-30)
30. U.S. EPA Region 9, comment letter on the Revised Tentative Order for MRP 1, April 3, 2009. [↑](#footnote-ref-31)
31. The Permittee in whose jurisdiction the project is located. [↑](#footnote-ref-32)
32. <https://www.oaklandca.gov/news/2021/oakland-construction-innovation-and-expanded-housing-options-ordinance> [↑](#footnote-ref-33)
33. <https://www.treasurer.ca.gov/ctcac/projects.asp> [↑](#footnote-ref-34)
34. <https://www.hcd.ca.gov/planning-and-community-development/housing-open-data-tools/housing-element-implementation-and-apr-dashboard> [↑](#footnote-ref-35)
35. Alameda, Contra Costa, San Mateo, Santa Clara, and Solano Counties. [↑](#footnote-ref-36)
36. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. [↑](#footnote-ref-37)
37. <https://www.treasurer.ca.gov/ctcac/projects.asp> [↑](#footnote-ref-38)
38. For example: Guy Marzorati, June 14, 2023. “San Jose City Council Approves Modest Shift Toward Temporary Homeless Housing.” KQED. <https://www.kqed.org/news/11952913/san-jose-council-approves-modest-shift-toward-temporary-homeless-housing>.

McKinsey & Company, March 23, 2023. The ongoing crisis of homelessness in the Bay Area: What’s working, what’s not. <https://www.mckinsey.com/industries/public-sector/our-insights/the-ongoing-crisis-of-homelessness-in-the-bay-area-whats-working-whats-not#/>

National Alliance to End Homelessness, February 24, 2023. Taking an Equitable Approach to Unsheltered Homelessness. <https://endhomelessness.org/blog/taking-an-equitable-approach-to-unsheltered-homelessness/> [↑](#footnote-ref-39)
39. See the Bay Area Municipal Stormwater Collaborative report, dated September 30, 2023. “Regional Best Management Practices Report for Addressing Non-Stormwater Discharges Associated with Unsheltered Homeless Populations.” At the time of this Permit amendment, the Report had been recently submitted and was under review by the Water Board. [↑](#footnote-ref-40)
40. See Administrative Procedures Update, Antidegradation Policy Implementation for NPDES Permitting, 90-004, p. 4 (baseline water quality is the best quality of the receiving water since 1969 considering the state antidegradation policy or 1975 considering the federal antidegradation policy, unless subsequent lowering was authorized consistent with these policies). [↑](#footnote-ref-41)