

Stormwater Control

Stormwater runoff from urbanized areas is a major source of pollution to local creeks and San Francisco Bay. To comply with the Municipal Regional Stormwater Permit (MRP 3.0), reissued by the Regional Water Quality Control Board in 2022 and amended in 2023, the City of Walnut Creek requires development projects to incorporate appropriate stormwater controls. These may include site design measures, source controls, low impact development (LID) techniques and Hydromodification Management (HM). Updates are effective as of July 1, 2023.



Stormwater Treatment, Bioretention Basin

REGULATED PROJECTS

- ◆ Analyze the feasibility of infiltrating, evapotranspiring, or harvesting/reusing runoff. Where none of these are feasible, runoff from impervious areas may be routed to Bioretention facilities
- ◆ In-ground vault filters or tree-well type of biofilters may be used only in specific, narrowly defined **Special Projects** categories of “Smart Growth” projects
- ◆ The CCCWP Stormwater C.3 Guidebook ([C.3 Guidebook](#)) summarizes the policies, procedures, design and submittal requirements for projects in Contra Costa County

NOT REGULATED PROJECTS

- ◆ Determine the applicability of the MRP Section C.3.i, “Small Projects”
- ◆ Where neither C.3.b “Regulated Projects” nor C.3.i is applicable, the City of Walnut Creek encourages applicants to assess stormwater runoff and provide discussion of planned efforts to implement the best practices and goals outlined in the [MRP](#)

UPDATES HIGHLIGHT

- ◆ Impervious surface threshold for most projects will drop from 10,000 to 5,000 sq ft, including for new roads and the addition of a travel lane to an existing road
- ◆ New categories of regulated projects include:
 - * Road and sidewalk repair projects ≥ 5,000 contiguous sq ft
 - * Road reconstruction and pavement widening ≥ 1 contiguous acre
 - * Detached single family home that creates or replaces ≥ 10,000 sq ft
- ◆ BAHM model is used for flow control only, so the IMP Calculators is still needed for design of treatments

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Provision C.3 Applicability

- ◆ Provision C.3 is part of the Municipal Regional Stormwater NPDES Permit for the San Francisco Bay Region (MRP) applicable to new development and redevelopment projects.
- ◆ Development project applicants **must** determine which portions of Provision C.3 apply to the project and must demonstrate conformance with the MRP during the Design Review process, Site Development Permit process and/or Building Permit process.
- ◆ City Staff are available throughout the application process to advise applicants on C.3 applicability and its requirements.

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| <p>C.3 is <i>not</i> landscaping. Landscaping can be a <i>component</i> of C.3 design. The C.3 Guidebook contains a county-wide <u>Approved Plant List</u> (see Appendix B)</p> | <p>C.3 requirements and design have a significant impact on site layout and grading design</p> |
| <p>Provision C.3 protects our water quality and our creeks</p> | <p>With proper attention, the cost of LID operation and maintenance can be minimized</p> |

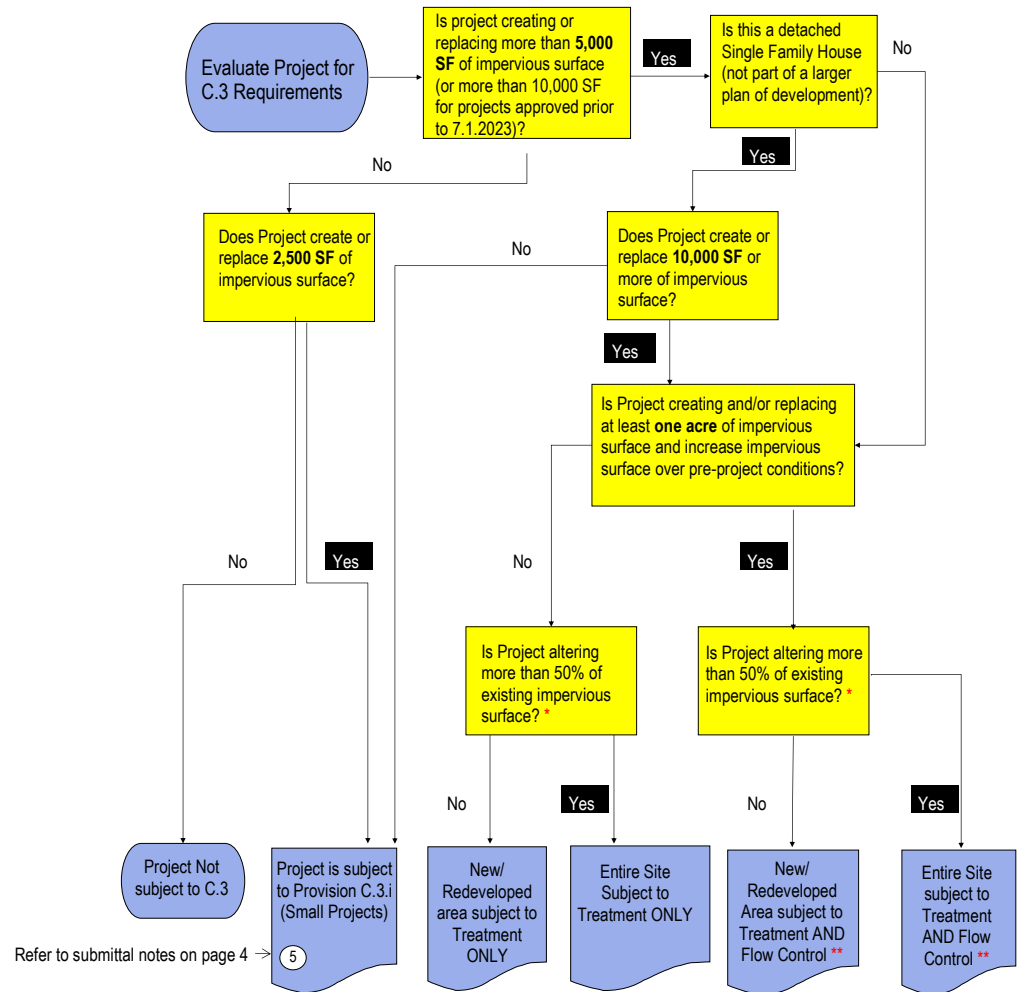
- Excluded Redevelopment Projects:**
- Interior remodels
 - Routine maintenance or repair such as roof or exterior wall replacement
 - The following pavement maintenance practices: pothole, square cut patching, overlaying asphalt without increasing area, shoulder grading, crack sealing
 - Regrading drainage systems

Any change in elevation, drainage pattern or other feature considered to be a grade modification is subject to Provision C.3.

Any improvements within public right-of-way shall be considered a part of the project.

Note that removing/replacing asphalt or concrete to top of base course or lower, repair of pavement base (i.e. base failure repair), and extending the pavement edge or paving graveled shoulders are no longer exempt

Provision C.3 Applicability



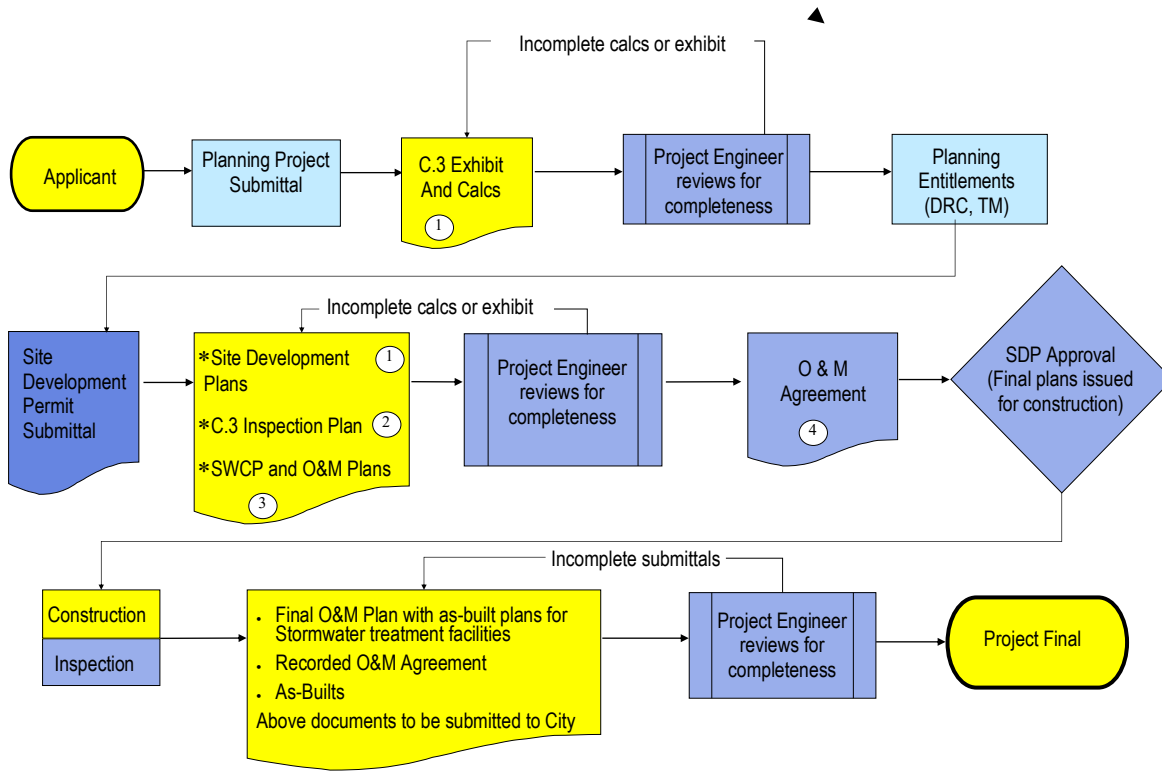
* To determine if a project is altering more than 50% of existing impervious surface, the applicant will need to prepare an exhibit showing existing impervious areas and proposed new impervious areas. The replaced impervious area is the total of all areas where existing impervious surfaces will be removed and replaced with new impervious area. If the replaced impervious area is greater than 50% of the existing impervious area, then the project is considered subject to the 50% rule.

** For sites that are already partially developed, flow control design is required for the increase impervious area only.

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Provision C.3 Review Process

STORMWATER CONTROL



The Stormwater Control Plan Exhibit is a project site plan showing the Integrated Management Practices (IMPs) and Drainage Management Area(s) (DMAs) associated with each IMP. During Design Review, the Exhibit is coordinated with the preliminary proposed grading. The exhibit must include the following:

- Structure footprints
- Location of DMAs and IMPs. Special Projects shall show location of mechanical treatment devices
- IMP Calculator output tables and flow control design parameters resulted from Contra Costa BAHM
- Clear presentation as to which DMA(s) drain to which IMP/treatment device (note: one DMA cannot drain to multiple IMPs, but one IMP/treatment device may receive runoff from multiple DMAs)
- Completed project data and show table. Refer to the project data table in [Stormwater Control Plan template](#)

The application process for new development and redevelopment projects begins with the Planning project submittal and is on-going through the Site Development and Building Permit applications. The various components of the process can be simple or complex depending on the project type and the applicable portions of Provision C.3.

LEGEND

- Applicant
- Planning Division
- Engineering Division
- 1 Refer to Submittal Notes

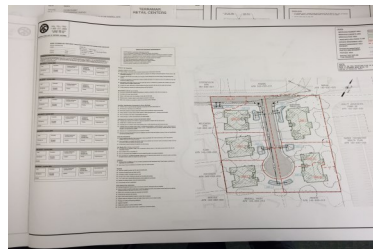
SUBMITTAL NOTES

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SITE DEVELOPMENT PERMIT PLANS

The **SDP Plans** shall include the following:

- Stormwater Control Plan Exhibit including Output from the [Contra Costa County IMP Sizing Calculator](#) and Contra Costa County [BAHM](#) (include electronic output files).
- Civil (grading, utility, paving) landscaping and architectural plan sheets specifically incorporating C.3 features and being coordinated for consistency.
- Show key elevations on grading and utility plans. (see Chapter 4 of the C.3 Guidebook) Identification of all onsite drainage areas.
- Provide site-specific details of IMPs, permeable pavements and tree-well biofilters or vault-based media filters (for Special Projects only).
- Reference City standard details. Include SD-10-4 and as appropriate, SD-10-1 through SD-10-3.



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C.3 INSPECTION PLAN

The **C.3 Inspection Plan** sheet is added to the SDP plan set by the City project engineer. The sheet serves as an inspection card for each IMP, listing the required inspections per City Standard Detail SD-10-4. City Inspectors will test and verify a checklist of items during construction. This checklist assists field crews in preparing for City inspections, and helps avoid construction delays resulting from failed inspections.

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STORMWATER CONTROL AND O&M PLANS

The **Stormwater Control Plan** is a document detailing how the project complies with Provision C.3 of the MRP Chapter 2 of the C.3 Guidebook outlines the contents and requirements of the Stormwater Control Plan. [Be sure to review and follow the C.3 Guidebook instructions when preparing a complete Stormwater Control Plan.](#)

The **Operation and Maintenance Plan** is a document identifying the persons responsible for maintaining the C.3 and describing the inspection and maintenance needed to ensure proper function of the facilities. Chapter 5 of the C.3 Guidebook provides guidance for preparing the O&M Plan.

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O&M AGREEMENT

The **O&M Agreement** is a legal document prepared by the City's Project Engineer. The Agreement requires the property owner(s) to be responsible for maintaining the C.3 facilities once they are completed. The Agreement also defines the property owners' obligation to report annual inspections to the City and grants the City access to perform required periodic inspections.



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SMALL PROJECTS

Small Projects are required to include "Stormwater Control Plan for a Small Development Project, refer to Appendix C of the C.3 Guidebook.

Project Types

Special Projects

Land development projects characterized as smart growth or high density development can either reduce existing impervious surfaces, or create less “accessory” impervious areas and automobile-related pollutant impacts. Incentive LID (Low Impact Development) Treatment Reduction Credits approved by the Water Board may be applied to these Special Projects defined in MRP Provisions C.3.e.ii(3), (4) & (5) which is summarized in Table 3-8 of the C.3 Guidebook

Special Project Basis of Infeasibility

Prior to granting any LID Treatment Reduction Credits, Permittees must first establish, document, and report all the infeasibility of the 100% LID treatment in each scenario described in *Provision C.3.e.ii.(2)(a)-(c)*



Category A Highlights

- Located in designated central business district, downtown core area or downtown core zoning district, neighborhood business district or comparable pedestrian-oriented commercial district or historic preservation site and/or district
- Create or replace 1/2 acre or less of impervious area
- Surface parking for EVA, ADA & loading zones only
- 85% or more of the entire project site covered by permanent structures
- Up to 100% LID credit may be approved

Category B Highlights

- Located in designated central business district, downtown core area or downtown core zoning district, neighborhood business district or comparable pedestrian-oriented commercial district, or historic preservation site and/or district
- Create or replace greater than 1/2 acre, and no more than 2 acres of impervious surface area
- Surface parking for EVA, ADA & loading zones only
- 85% or more of the entire project site covered by permanent structures
- LID reduction credits between 50% and 100% may be approved based on project Floor Area Ratios (FARs) or dwelling units/acre

Category C Highlights

Updated Affordable Housing

- Project must provide affordable housing, be primarily a residential development project, and achieve at least a gross density of 40 DU/Ac
- LID credits are determined by summing affordable housing credit (up to 70%), location credit (up to 10%), density credit (up to 15%) and minimized surface parking credits (up to 5%)
- To qualify for any credits, a Category C Special Project must first qualify for one of the Affordable Housing Credits in *Provision C.3.e.ii.(5)(c)*

Note: Any Regulated Project may only use the LID Treatment Reduction Credit allowed under one of the Special Projects Categories even if it meets the criteria for multiple categories.

Project Types

Small Projects

All Development projects that create and/or replace $\geq 2,500$ sq ft., and $< 5,000$ sq ft of impervious surface (or $< 10,000$ sq ft. for any single-family homes that are not part of a larger plan of development) are subject to MRP Provision C.3.i. Prepare a SWCP for a Small Development Project, refer to Appendix C of the C.3 Guidebook



Prepare a SWCP for a Small Development Project, refer to Appendix C of the C.3 Guidebook

LID strategies installed and used for Small Projects must include one or more of the following:

- Direct roof runoff onto vegetated areas
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas
- Construct sidewalks, walkways, and/or patios with permeable surfaces (i.e. pavers or pervious concrete); construction of bike lanes, driveways, and uncovered parking lots with permeable surfaces)

Project Types

Hydromodification Management

Projects that create and/or replace at least one acre of impervious surface and increase impervious surface over pre-project conditions are subject to Hydromodification

- Project IMPs must be sized for treatment as well as flow control using the Contra Costa County IMP Sizing Calculator and BAHM model. See Chapter 3 of the C.3 Guidebook
- For sites that are already partially developed, treatment and flow control design required for the increased impervious area only. Remainder of site can be designed using treatment only sizing

The [CCCWP 2023 HM Applicability Map](#) (approved February 1, 2024) can be used for rapid initial determination of whether location-based HM requirements apply to proposed land development projects in jurisdictions across Contra Costa County. In the City, some areas may be HM exempt due to the existing condition of over 70% impervious.

Project Types

Under 2,500 sq ft

Not required but encouraged to incorporate Provision C.3.i the same way as a small project

Stormwater Glossary & Acronyms

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| 50% Rule | Any regulated project that results in the alteration of 50% or more of the existing development (not previously subject to Provision C.3) must apply Provision C.3 to the entire project. Where less than 50% of the existing development is altered, only the new and/or replaced impervious surface is subject to Provision C.3 | Impervious Surface | Any material that prevents or substantially reduces infiltration of water into the soil (ie. asphalt, concrete) or Surface where water cannot go through to the ground below |
| Bioretention | The practice of capturing runoff within a matrix of soil and plant roots. Following capture, the runoff is evapotranspired or infiltrated to surrounding and underlying soils. During frequent or intense runoff events, the soil and plant root matrix may become saturated, in which case excess runoff may be discharged to an under drain (biotreatment) | Integrated Management Practice (IMP) | A facility that provides small - scale treatment, retention, and/or detention and is integrated into site layout, landscaping and drainage design. See Low Impact Development. |
| Biotreatment | The practice of filtering runoff through a matrix of soil and plant roots prior to discharge to a receiving water or municipal storm drain | Low Impact Development (LID) techniques | A stormwater management strategy aimed at maintaining or (LID) techniques restoring the natural hydrologic functions of a site. LID design detains, treats, and infiltrates runoff by minimizing impervious area, using pervious pavements and green roofs, dispersing runoff to landscaped areas, and routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout a site. |
| C.3 | Provision in the MRP that requires the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address pollutant discharges and prevent increases in runoff flows | MRP | Municipal Regional Permit. The permit issued by the State Regional Water Quality Control Board that allows cities to discharge stormwater into creeks, streams, rivers and the waters of the United States. The Regional Boards ensure cities comply with provisions of State and Federal Clean Water laws and govern local municipalities and waters. |
| CCCWP | Established by an agreement among 19 Contra Costa cities and towns, Contra Costa County, and the Contra Costa County Flood and Water Conservation District. CCCWP implements common tasks and assists the member agencies to implement their local stormwater pollution prevention programs | National Pollutant Discharge Elimination System (NPDES) | As part of the 1972 Clean Water Act, Congress established the NPDES permitting system to regulate the discharge of pollutants from municipal sanitary sewers and industries. The NPDES was expanded in 1987 to incorporate permits for stormwater discharges as well. |
| Detached Single-family Home Project | The building of one single new house or the addition and/or replacement of impervious surface to one single existing house, which is not part of a larger plan of development | New Impervious Area | Sum of all newly created impervious areas. |
| Evapotranspiration | Is the sum of evaporation and plant transpiration from the Earth's land and ocean surface to the atmosphere. Evaporation accounts for the movement of water to the air from sources such as the soil, canopy interception, and water bodies | Pervious Surface | Surface or material that will allow water to pass through to the ground below i.e. landscape, porous pavements, etc. |
| Flow Control | Flow Control is the management of hydrograph modification (the alteration of the natural flow of water). MRP Provision C.3.g and the C.3 Guidebook discuss the requirements and approved methods to manage hydromodification | Replaced Impervious | Sum of existing impervious surfaces where there was a driveway, roof, walkways, patios, pool decks, sheds or other buildings before the project and where an impervious surface will be installed as part of the project. |
| Hydromodification Management (HM) Requirements | Can be categorized as hydrologic source controls (site designs) to reduce runoff, flow duration controls to temporarily detain runoff, and in-stream measures, where conditions allow, to reduce the potential for downstream erosion. | Site Design Measures | Permanent features that reduce water quality impacts by reducing impervious surfaces and directing run-off from impervious surface to vegetated areas. |
| | | Source Controls | Measures that prevent potential pollutant sources from contacting rainfall and stormwater (i.e. Roofed trash enclosures, pest-resistant landscaping and sanitary sewer drains for vehicle wash areas) |

Stormwater Glossary (cont.), Links & Acronyms

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| Stormwater Control Plan | A plan specifying and documenting permanent features and facilities to control pollutants and stormwater flows for the life of the project. |
| Stormwater Control Operation & Maintenance Plan | A plan detailing operation and maintenance requirements for stormwater treatment and flow-control facilities incorporated into a project. |
| Treatment | Removal of pollutants from runoff, typically by filtration or settling. |
| Bay Area Hydrology Model (BAHM) | A software tool for design of flow control structures to meet hydromodification management requirements for new development or redevelopment projects. |

Important Links:

[BAHM](#)

[Contra Costa Clean Water Program Guidebook](#)

[Contra Costa County Stormwater C.3 Guidebook IMP Sizing](#)

[Municipal Regional Permit](#)

[Stormwater Control Plan](#)

[Operation and Maintenance Plan](#)

[CCCWP 2023 HM Applicability Map](#)

Commonly Used Acronyms

| | |
|-------------|---|
| BAHM | Bay Area Hydrology Model |
| BMP | Best Management Practice |
| CCCWP | Contra Costa Clean Water Program |
| DMA | Drainage Management Area |
| DRC | Design Review |
| DU/Ac | Dwelling Unit per Acre |
| FAR | Floor Area Ratio |
| HM | Hydromodification Management |
| IMP | Integrated Management Practice |
| LID | Low Impact Development |
| MRP | Municipal Regional Permit |
| NPDES | National Pollutant Discharge Elimination System |
| O&M | Operation & Maintenance |
| SCP or SWCP | Stormwater Control Plan |
| TM | Tentative Map |