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), reissued by the Regional Water Quality Control Board in 2015, 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).

Stormwater Treatment, Bioretention Basin

REGULATED PROJECTS

- Analyze the feasibility of infiltrating, evapotranspirating, 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 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

Inside This Guidebook:

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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.*

C.3 is *not* landscaping. Landscaping can be a *component* of C.3 design. The C.3 Guidebook contains a county-wide Approved Plant List. (see Appendix B)

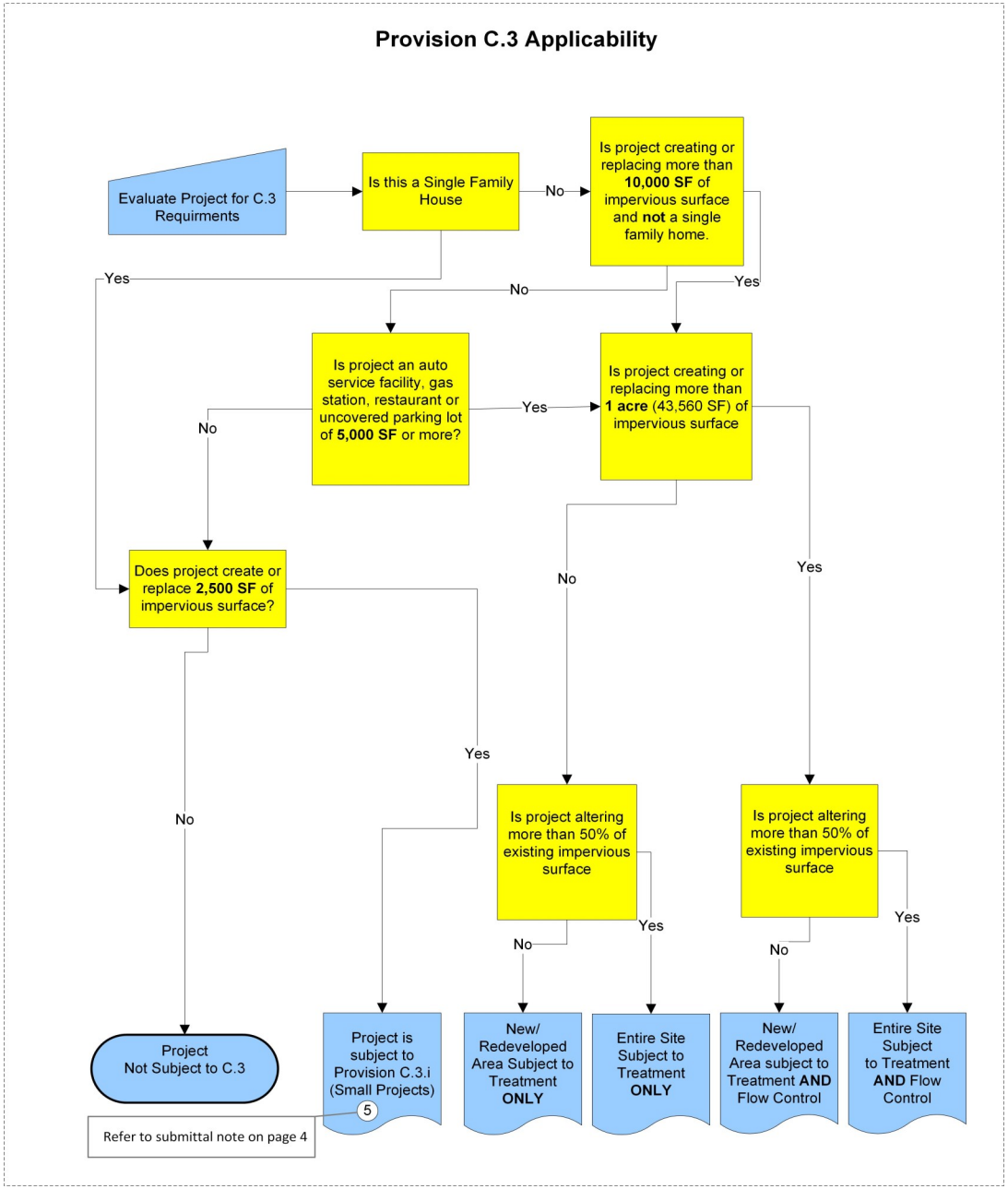
C.3 requirements and design have a significant impact on site layout and grading design

Provision C.3 protects our water quality and our creeks

With proper attention, the cost of LID operation and maintenance can be minimized

Excluded Redevelopment Projects:

- Interior remodels
- Routine maintenance or repair.
- Resurfacing of existing parking lots
- Maintenance, repair or resurfacing an existing site condition cannot alter grading or drainage of that site feature. Any change in elevation, drainage pattern or other feature considered to be a grade modification ***is*** subject to Provision C.3



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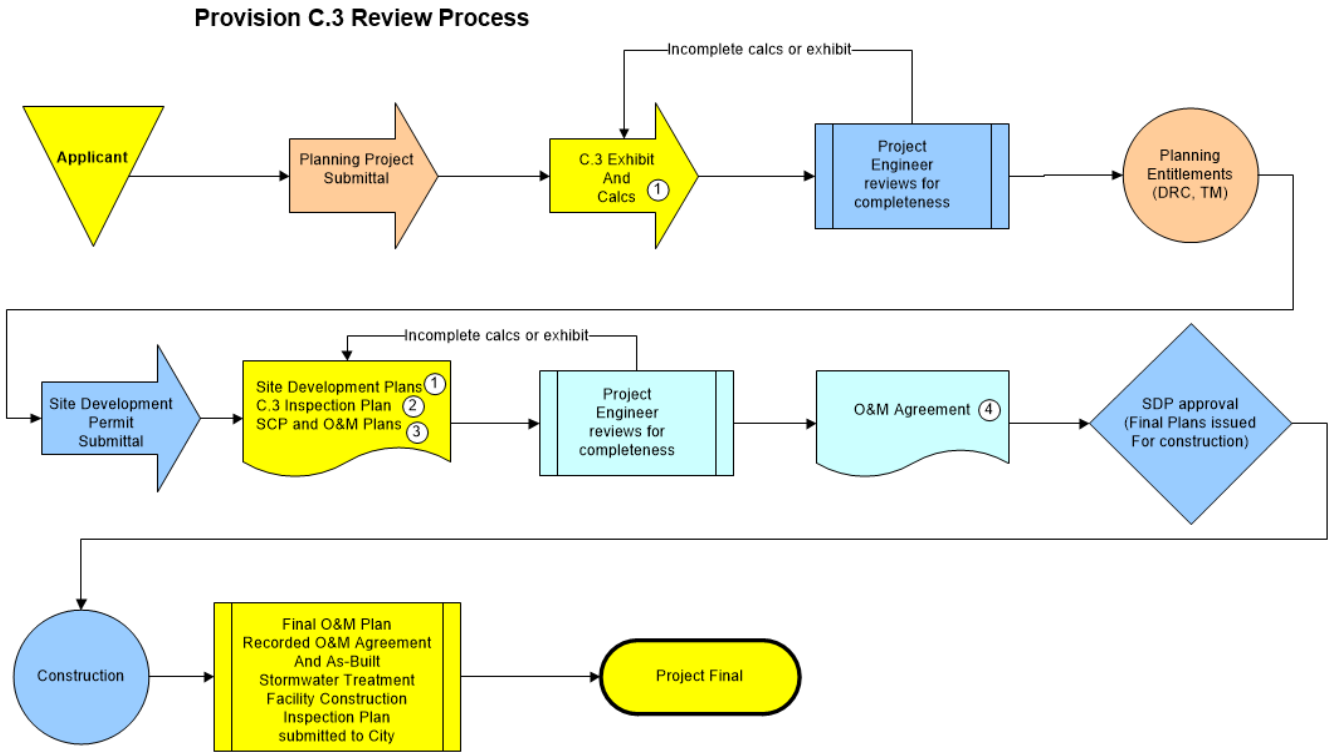
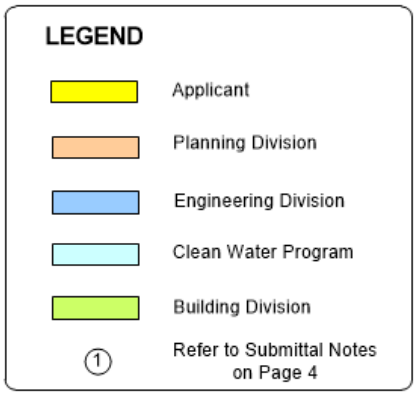
Provision C.3 Review Process



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.



DESIGN REVIEW C.3 EXHIBIT

The Design Review C.3 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
- Effective surface area calculation table for each DMA—see Chapter 3 of the C.3 Guidebook
- Surface area of each IMP
- 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)
- Project information table including: Total site area, total new and replaced impervious areas, total pre-project impervious and pervious area, total post- project impervious and pervious area, eligible special project credits (if any), and applicability of 50% rule
- City of Walnut Creek Standard C.3 Stormwater Management Exhibit notes

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SUBMITTAL NOTES

1 SITE DEVELOPMENT PERMIT PLANS

The **SDP Plans** include

- A detailed version of the Design Review C.3 Exhibit including Output from the Contra Costa County IMP Sizing Calculator
- Civil (grading, utility, paving) landscaping and architectural plan sheets specifically incorporating features of the C.3 Exhibit and 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

2 C.3 INSPECTION PLAN

The **C.3 Inspection Plan** sheet is required in the SDP plan set. The sheet contains the site plan from the SDP C.3 Exhibit, and the City C.3 Inspection Checklist.

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.

Be sure to review and follow *Guidebook* instructions for preparing a complete Stormwater Control Plan.

3 STORMWATER CONTROL AND O & M PLANS

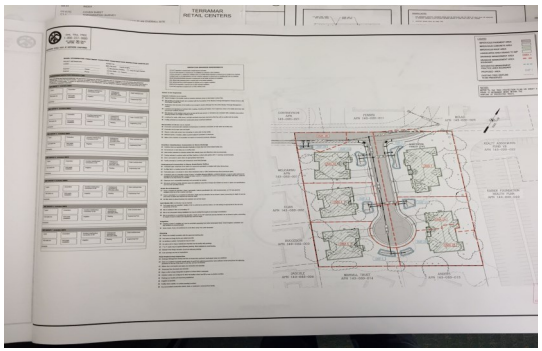
The **Stormwater Control Plan** is a document detailing how the project complies with Provision C.3 of the MRP. Chapter 2 of the C.3 Guidebook outlines the contents and requirements of the Stormwater Control Plan. The **Operation and Maintenance Plan** is a document identifying the persons responsible 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

4 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.

5 SMALL PROJECTS

Small Projects are required to include Stormwater Control Plan.



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Project Types

Special Projects

Special Project Narrative

In addition to Project C.3 exhibits, Special Projects require a Project Narrative. See the Special Project Narrative Guidance Memo

Land development projects characterized as smart growth, high density or transit-oriented 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(2), (3) & (4) which is summarized in Table 3-8 of the C.3 Guidebook

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

- Project must relate to the concept of transit-oriented development as defined in the MRP
- Stand alone surface parking lots; car dealerships; auto & truck rental facilities with onsite surface storage; fast-food restaurants; car washes; auto repair and service facilities; and other auto related projects are **specifically excluded**
- Floor Area Ratio (FAR) at least 2:1 for commercial or mixed-use projects or residential project density of at least 30 DU/Ac
- LID credits are determined by summing location credit (up to 50%), density credit (up to 30%) and minimized surface parking credits (up to 20%)

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Project Types — Small Projects

All Development projects, including single family homes, that create and/or replace ≥2,500 sq ft., and <10,000 sq ft., of impervious surface are subject to MRP Provision C.3.i

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, increase impervious surface over pre-project conditions
- Project IMPs must be sized for treatment as well as flow control using the C.3 Guidebook's IMP Sizing Calculator. See Chapter 3 of the Guidebook

Project Types — Under 2,500 sq ft

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

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Stormwater Glossary & Acronyms

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
Bioretention	The practice of capturing runoff within a matrix of soil and plant roots. Following capture, the runoff is evapotranspirated 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)
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
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
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
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
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
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
Harvesting and Reuse	The practice of capturing runoff and storing it for later use. Typical non-potable uses include toilet flushing, landscape irrigation, and industrial uses such as concrete production or washing.
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
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
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.
Low Impact Development (LID) techniques	A stormwater management strategy aimed at maintaining or 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 a reas, and routing runoff to rain gardens, cisterns, swales, and other small-scale facilities distributed throughout a site.
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.
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.
New Impervious Area	Sum of all newly created impervious.
Pervious Surface	Surface or material that will allow water to pass through to the ground below (ie. Special pavers)
Replaced Impervious Area	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 remain after the project.
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 (ie. Roofed trash enclosures, pest-resistant landscaping and sanitary sewer drains for vehicle wash areas)
Stormwater Control Plan	A plan specifying and documenting permanent features and facilities to control pollutants and stormwater flows for the life of the project.

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Stormwater Glossary, Acronyms & Links

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.

Commonly Used Acronyms

BMP	Best Management Practice
CCCWP	Contra Costa Clean Water Program
DMA	Drainage Management Area
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

Important Links:
The full version of the MRP

Contra Costa Clean Water Program Guidebook

Resources:
Contra Costa County Stormwater C.3 Guidebook IMP Sizing

Stormwater Control Plan

City of Walnut Creek Standard C.3 Stormwater Management Exhibit notes

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