



**Santa Clara Valley
Urban Runoff
Pollution Prevention Program**

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Memorandum

**TO: Site Design Work Group, C3PO Ad Hoc Task Group and
Management Committee**

FROM: Wendy Edde, Program Staff

DATE: May 16, 2003 PROJECT: SC42.36

SUBJECT: Santa Clara Basin Model Development Principles

The recently completed Development Policies Comparison Project began in response to a Regional Water Quality Control Board annual review of the Urban Runoff Program. To complete this analysis objectively, Program staff together with the Santa Clara Basin Watershed Management Initiative's Land Use Subgroup (LUS) developed a multi-section Policy, Code, and Ordinance worksheet based upon the 1998 Center for Watershed Protection's manual "Better Site Design: A Handbook for Changing Development Rules In Your Community," (Silver Spring, MD, 1998). The handbook includes model site planning/development principles and a Code and Ordinance comparison worksheet to assist municipalities to compare their development policies against the model development principles. The LUS made modifications to the basic model site planning and development principles and used these to modify the associated worksheet. The modifications involved tailoring the principles and worksheet to the Santa Clara Basin (for example, adding campus developments) and to cover the areas that the Program and WMI were interested in: erosion and sediment controls; imperviousness reduction and post-construction BMPs; drainage design; other stormwater pollution controls; natural resources; and policies to promote alternative transportation.

Attached are the Santa Clara Basin Model Development Principles developed with the LUS that formed the basis of the Development Policies Comparison Project's Policy, Code, and Ordinance Worksheet. These principles may be used by municipal staff as another tool for updating their development policies, codes, and guidance materials to provide ideas for those wishing to provide more detailed language/guidelines for additional water quality and beneficial use protection. With slight modifications, the language can be reworked to form specific goals, policies, implementation measures and/or other guidance to the level each Co-permittee determines is most appropriate.

Santa Clara Basin Model Development Principles
April 2003

I. Requirements to Implement Erosion and Sediment Controls During Construction

1. Specify comprehensive erosion and sediment control policies, including more stringent control policies for developments in sensitive areas (near riparian areas, hillside developments) to protect natural resources. Specify more stringent erosion and sediment control policies for, or discourage altogether, wet season construction.
2. Incorporate erosion control policies for off-road vehicle and trail use.
3. Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection. Minimize removal of vegetation and trees, and minimize earth movement.
4. Implement erosion and sediment controls prior to the start of and as part of grading and clearing.
5. Require adequate training of contractors, engineers, and designers in erosion and sediment controls. Reference specific technical manual(s) for guidance (e.g., Regional Board's Field Guide, ABAG's Erosion and Sediment Control Manual).
6. Require appropriate sites to meet NPDES General Permit conditions prior to obtaining municipal approvals.
7. Allow for flexibility in the erosion and sediment control plans to allow for updates in response to ever-changing field conditions.
8. Allow adequate authority and funding for routine municipal site inspections.
9. Incorporate enforcement measures, such as performance bonds, to ensure compliance with erosion and sediment control regulations/policies.

II. Policies to Limit the Overall and Directly-Connected Imperviousness of a Site and for Incorporating Post-Construction BMPs Into Development Projects

A. New Residential and Commercial Campus/Institutional Subdivisions.

10. Incorporate cluster development zoning policies with criteria to support water quality protection: (a) significant impervious surface reduction from reduced roadway network compared to conventional zoning, (b) minimum site size; minimum open space requirement of approximately 50% of total site. (c) consolidation of open space, such that at least 75% is in a contiguous unit for habitat value; (d) maintenance of approximately half of the open space in undisturbed, natural vegetated areas (i.e., wetlands, meadows), with the other half as a community green space (e.g.

playgrounds, constructed stormwater basins, turf grass); (e) formation of private legal entity to maintain open space in perpetuity (e.g. homeowners' association); and (f) dedication of open space to a public open space district.

11. Ensure that site designs require a definition of the development envelope, including the identification of protected areas, such as existing trees, steep slopes, erosive soils, riparian areas, or wetlands; setbacks, easements, and important site features.
12. Allow for a minimization of lot sizes, setbacks, and frontage distances to allow for open space and to protect sensitive areas.
13. Minimize impervious surface in recreational open space by using permeable pavement and other BMPs.
14. Advocate reliable methods for management of open space (e.g., community associations, and land trust or local government management via conservation easements). Address management decisions including maintenance, liability, and emergency vehicle access issues for open space areas. Clearly specify how community open space will be managed and designate a sustainable legal entity responsible for managing both natural and recreational open space.
15. Protect native vegetation, including heritage trees. Promote tree canopy coverage.

B. Residential Subdivision Site Design.

16. Advocate open space development that incorporates smaller lot sizes to minimize total impervious area, reduce total construction costs, conserve natural areas, provide community recreational space, and promote watershed protection.
17. Relax side yard setbacks and allow narrower frontages to reduce total road length in the community and overall site imperviousness. Relax front setback requirements to minimize driveway lengths and reduce overall lot imperviousness.
18. Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on only one side of the street and providing common walkways linking pedestrian areas.
19. Reduce overall lot imperviousness by promoting alternative driveway surfaces and shared driveways that connect two or more homes together.
20. Implement maximum impervious surface coverage limits.

C. Commercial/Industrial/Campus/Institutional Site Design.

21. Cover maintenance yard, service, cafeteria use, and disposal areas.
22. Policies should promote inclusion of turf playfields/courtyards as appropriate that will also serve as infiltration areas. Play areas or impervious areas should slope to turf playfields/courtyards. Promote multi-use area or playgrounds that to double as overflow parking for large events. Use removable bollard for access to overflow areas.

23. Promote use of benign roof materials.
24. Promote reduced building footprint, including multi-stories that incorporate parking areas within the structure.
25. Industrial areas should include an inlet with sump for spills; covered storage.

D. Streets.

26. Promote neo-traditional design, or headwaters street designs. Design residential streets for the minimum required pavement width needed to support travel lanes; on-street parking; and emergency, maintenance, and service vehicle access. These widths should be based on traffic volume.
27. Reduce the total length of residential streets by examining alternative street layouts to determine the best option for increasing the number of homes per unit length and for reducing vehicle trip miles.
28. Minimize the number of residential street cul-de-sacs and incorporate landscaped areas to reduce their impervious cover. The radius of cul-de-sacs should be the minimum required to accommodate emergency and maintenance vehicles. Consider alternative turnarounds.
29. Promote safe, integrated bikeways and pathways.
30. Promote native street trees.

E. Parking.

31. The required parking ratio governing a particular land use or activity should be enforced as both a maximum and a minimum in order to curb excess parking space construction. Existing parking ratios should be reviewed for conformance taking into account local and national experience to see if lower ratios are warranted and feasible.
32. Parking codes should be revised to lower parking requirements where mass transit is available or enforceable shared parking arrangements are made.
33. Reduce the overall imperviousness associated with parking lots by providing compact car spaces, minimizing stall dimensions, incorporating efficient parking lanes, and using pervious materials in spillover parking areas. Promote use of hybrid parking lot/parking groves in parking lots, and/or landscaped parking reserves.
34. Provide meaningful incentives to encourage structured and shared parking to make it more economically viable.
35. Wherever possible, provide stormwater treatment for parking lot runoff using bioretention areas, filter strips, and/or other practices that can be integrated into required landscaping areas and traffic islands. Promote use of vegetated swales, biofilters, infiltration islands. Promote pervious overflow in parking stalls, and notched curbs to direct runoff to swales, infiltration areas.

III. Requirements for Drainage Design

36. Promote limiting runoff to pre-development levels and/or finding solutions to flooding and local drainage problems in the development vicinity (e.g., detention/retention). Drainage policies, standard specifications and details for drainage should allow for infiltration of storm water and breakup of directly-connected impervious areas before sending water to the storm drain system.
37. Direct rooftop runoff to pervious areas such as yards, open channels, or vegetated areas and avoid routing rooftop runoff to the roadway and the stormwater conveyance system.
38. Drainage master plans should incorporate protection of streams from hydrologic impacts from development. Avoid altering natural drainage systems, so that flooding and water quality degradation do not result.
39. CEQA checklists should be modified, as necessary, to address stormwater and hydrologic impacts.
40. Wherever possible, residential street right-of-way widths should reflect the minimum required to accommodate the travel-way, the sidewalk, and vegetated open channels. Utilities and storm drains should be located within the pavement section of the right-of-way wherever feasible.
41. Where density, topography, soils, and slope permit, vegetated open channels should be used in the street right-of-way to convey and treat stormwater runoff.

IV. Other Policies Intended to Reduce Stormwater Pollution

42. Reduce the use of herbicides and pesticides on city-owned properties to the extent possible.
43. Prohibit litter, oil, pesticides/herbicides, or other illicit discharges or connections to the storm drain system. Control pollutants to the storm drain systems by any user.
44. Incorporate policies to reduce wastes from commercial, industrial sites, and municipal maintenance activities. Ensure proper use, storage, and disposal of toxic chemicals.
45. Include policies to promote public information and participation in all areas of storm water management, and for watershed protection.
46. Require general pollution prevention controls at construction sites.
47. Obtain appropriate legal authority for inspections, monitoring activities needed to ensure compliance and obtain adequate enforcement authority.
48. Policies and funding to help city implement Storm Water Management Plan.

VI. Wetlands and Riparian Protection and Restoration, and Open Space Policies

49. Distinguish between and preserve natural open space and urban (park, recreation) open space. A fixed portion of any community open space should be managed as protected natural open space in a consolidated manner.
50. Create a variable width, naturally vegetated buffer system along all perennial streams that also encompasses critical environmental features such as the 100-year floodplain, steep slopes and freshwater wetlands.
51. The riparian stream buffer should be preserved or restored with native vegetation that can be maintained throughout the delineation, plan review, construction, and occupancy stages of development.
52. Conserve trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native plants. Wherever practical, manage community open space, street rights-of-way, parking lot islands, and other landscaped areas to promote natural vegetation.
53. Incentives and flexibility in the form of density compensation, buffer averaging, property tax reduction, stormwater credits, and by-right open space development should be encouraged to promote conservation of stream buffers, forests, meadows, and other areas of environmental value. In addition, off-site mitigation consistent with locally adopted watershed plans should be encouraged.
54. New stormwater outfalls should not discharge unmanaged stormwater into jurisdictional wetlands, sole-source aquifers, or sensitive areas.

VI. Policies to Limit Auto Use and Promote Alternative Modes of Transportation

55. Promote regional and local linking of mass transit opportunities to allow for easy, convenient connections.
56. Reduce the amount or length of vehicle trips necessary. Promote street design to minimize trip length. Promote telecommuting. Promote delivery services.
57. Promote employment and industrial areas in areas with more truck routes, better access to air, truck, rail, and water freight routes.
58. Participate in Regional Transportation Planning Process, and develop local policies to support the regional transportation planning efforts. Examine and reduce overall social, economic, energy and environmental effects of transportation decisions in the transportation plan.
59. Promote mixed land use development and strong regional centers with strong pedestrian amenities, to ease congestion and increase mass transit use. Arrange mass transit together with higher density land uses. Promote parking limitations, pedestrian amenities, and land use considerations in areas with compact, densely developed

urban areas near mass transit. Advocate increased density near transit and activity centers.

60. Promote well-connected network of streets/pathways to benefit transit, pedestrian, and bike travel. Promote more compact urban form and land use patterns, and increased availability for transit, safe biking and walking. Promote connection of urban centers with several corridors and access points that allow for auto, transit, bike, and pedestrian movement.
61. Minimize the impact of travel on rural and environmental land uses by promoting greenbelts.

VII. Policies to Promote Regional/Watershed-Based Planning and Zoning

62. Local jurisdictions should work with multiple jurisdictions that share their watershed and on a regional level to: (1) identify the watersheds shared by participating jurisdictions; (2) identify, assess, and prioritize the natural, social, and other resources into the watershed, (3) prioritize areas for growth, protection and conservation based on prioritized resources, and (4) develop plans and regulations to guide growth and protect resources.
63. Adopt a watershed-based or ecosystem-based planning approach to land use planning and policy decisions. Articulate the basic strategy in the General Plan. The General Plan should look at development projects in the context of the entire watershed. Link land use planning with transportation planning to maintain livability, protect the watershed.
64. Begin to pursue basic watershed-based planning strategy in collaboration with neighboring local governments located in the watershed.
65. Promote watershed-based zoning, such as overlay districts, performance zoning, incentive zoning, imperviousness overlay zoning, and/or planned unit development zoning to introduce flexibility into the zoning structure.
66. Update CEQA checklist to consider site impacts in terms of an overall watershed plan (once available).
67. Consolidate open space planning within the watershed. Plan early with other watershed communities where and when open space development is desired and needed.
68. Have a mechanism to prepare a specific area plan in conjunction with flood control planning, to address in part the need to incorporate urban drainage.

References Cited:

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