

Hydromodification Management and LID Implementation in Contra Costa County

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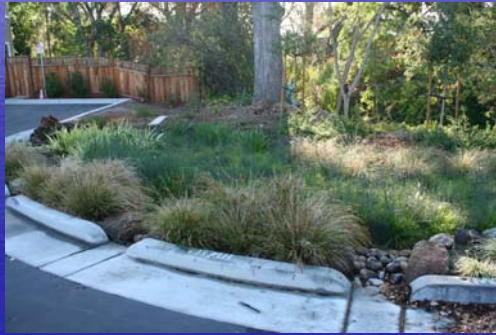
Contra Costa County Approach

- Combine WQ Treatment with Hydromod Controls
- LID Approach
- Limit Contributing Drainage Area
- Fast Draining Soils
- Limit Ponds / Vector Issues / Clogging



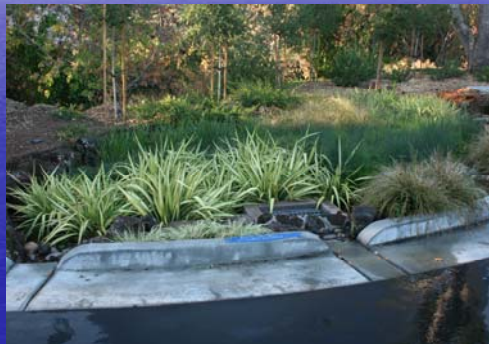
Bioretention Basin

- Amended soil specifications / storage
- Planting Schedule
- Energy Dissipation
- Underdrain



Bioretention Basin

- Aesthetics
- Issue – Improperly placed curb cut
- Retrofit solution



Rain Garden

- Homeowner Maintenance
- Cleanout
- No standing water



Rain Garden

- Amended Soil Providers
- Irrigation
- Groundwater Recharge
- HOA Maintenance



Distributed LID Design

- Recently constructed
- Limit Drainage Area to LID site
- Raised walls – safety and aesthetics
- Underdrain Design



Multiple-Cell LID

- Limited Space
- Steep Grade
- No incidental infiltration



Bioswale Bioretention

- Issue – Landscaping materials
- Issue – Grading
- Issue – Grate Elev



Bioswale Bioretention

- Retrofits
- Grading and Landscaping



Median Bioretention

- Depth for HMP and WQ Treatment
- Issue – Safety
- Issue – Notch in side of overflow box



Median Bioretention

- Limit flow concentration
- Incidental infiltration



Perimeter Swale Bioretention



Median Bioretention

- Issue – Improperly spaced curb cuts
- Issue – Grate elev



Median Bioretention

- Issue - Improperly spaced curb cuts
- Issue – Grate elev



Bioretention Basin

- Church/School Site
- Interconnected bioretention basin
- Aesthetics
- Recently constructed



Bioretention Basin



Bioswale Bioretention



Median Bioretention

- Proper width
- Proper curb cuts
- Proper vegetative cover
- Proper riser overflow design



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