

## Section 5: Identification and Prioritization of Projects

### 5.1 Project Solicitation and Review Process

Projects presented in this section were submitted for consideration to be included in the Yolo SWRP. A total of 26 projects were submitted. Project review consisted of a two-part process: (1) Initial Project Screening and (2) Project Prioritization and Ranking (for implementation projects only). The following sections describe the project review process and results.

#### 5.1.1 Initial Project Screening

Initial Project Review consists of a sequence of questions to ultimately determine the stormwater benefits resulting from implementation. In order for a project to be prioritized, a project must meet all of the following criteria:

1. A completed Westside Sacramento IRWMP Project Information Form
2. A completed SWRP Project Addendum
3. Project will result in immediate or downstream benefit to Yolo County
4. Project will result in more than one stormwater benefit (as listed in Table 3 of the Storm Water Resource Plan Guidelines)
5. Quantification of at least two stormwater benefits (as listed in Table 3 of the Storm Water Resource Plan Guidelines)

If criteria 1 or 2 are not met, the project is considered inactive and removed from the SWRP project list. If criteria 3 is not met, the project is considered a non-stormwater project and removed from the SWRP project list. If criteria 4 or 5 are not met, the project is a planning or conceptual project or study and remained on the project list. If criteria 1-5 are met, the stormwater project is considered ready for implementation.

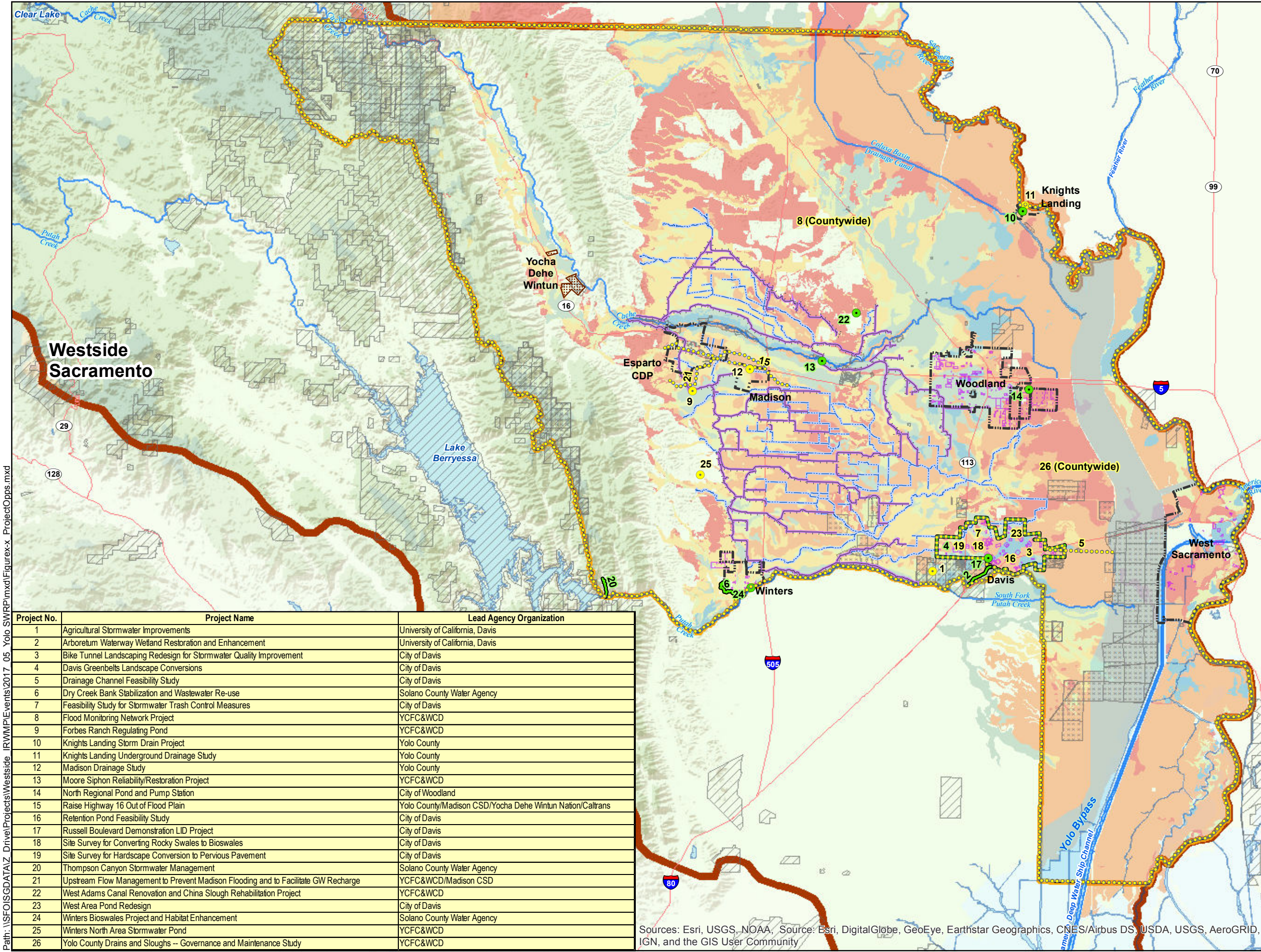
All 26 submitted projects met criteria 1-3 and are summarized in the following subsection and shown in Figure 5-1.

#### 5.1.1.1 Agricultural Stormwater Improvements

- **Project Applicant:** University of California, Davis
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Community
- **Capital Cost:** \$250,000
- **Secured Funding/Source:** To Be Determined
- **Annual Operations and Maintenance Cost/Funding Source:** \$10,000/To Be Determined
- **Benefit Metrics Value(s):** Storm water captured/treated (AFY/CFS)

**Project Summary:** Agricultural runoff currently enters the storm drain system directly. This project would create retention basins and vegetated ditches to collect stormwater and irrigation runoff along edges of agricultural fields.

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Sloughs w/in YCFC&WCD Boundary  
 Canals w/in YCFC&WCD Boundary  
 City Public Properties  
 County Zoning - Public  
 Public Agency Jurisdiction  
 Yolo SWRP Boundary  
 Westside Region

**Projects**

Conceptual/Planning  
 Implementation  
 Implementation  
 Conceptual/Planning

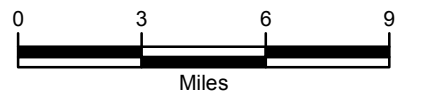
**SAGBI - Modified**

Excellent  
 Good  
 Moderately Good  
 Moderately Poor  
 Poor  
 Very Poor

The Soil Agricultural Groundwater Banking Index (SAGBI) is a suitability index for groundwater recharge on agricultural land. The SAGBI is based on five major factors that are critical to successful agricultural groundwater banking: deep percolation, root zone residence time, topography, chemical limitations, and soil surface condition.

Modified overlay is theoretical; it shows SAGBI suitability groups when assuming that all soils with restrictive layers have been modified by deep tillage.

Source:  
<https://casoilresource.lawr.ucdavis.edu/sagbi/>  
 SAGBI overlay provided by Toby O'Geen (atogeen@ucdavis.edu), Professor & Soil Resource Specialist in Cooperative Extension, Dept. of Land, Air and Water Resources, UC Davis.



**Kennedy/Jenks Consultants**

**Storm Water Resource Plan  
For Yolo County**

**SWRP Project Locations**



Project No.	Project Name	Lead Agency Organization
1	Agricultural Stormwater Improvements	University of California, Davis
2	Arboretum Waterway Wetland Restoration and Enhancement	University of California, Davis
3	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement	City of Davis
4	Davis Greenbelts Landscape Conversions	City of Davis
5	Drainage Channel Feasibility Study	City of Davis
6	Dry Creek Bank Stabilization and Wastewater Re-use	Solano County Water Agency
7	Feasibility Study for Stormwater Trash Control Measures	City of Davis
8	Flood Monitoring Network Project	YCFC&WCD
9	Forbes Ranch Regulating Pond	YCFC&WCD
10	Knights Landing Storm Drain Project	Yolo County
11	Knights Landing Underground Drainage Study	Yolo County
12	Madison Drainage Study	Yolo County
13	Moore Siphon Reliability/Restoration Project	YCFC&WCD
14	North Regional Pond and Pump Station	City of Woodland
15	Raise Highway 16 Out of Flood Plain	Yolo County/Madison CSD/Yocha Dehe Wintun Nation/Caltrans
16	Retention Pond Feasibility Study	City of Davis
17	Russell Boulevard Demonstration LID Project	City of Davis
18	Site Survey for Converting Rocky Swales to Bioswales	City of Davis
19	Site Survey for Hardscape Conversion to Pervious Pavement	City of Davis
20	Thompson Canyon Stormwater Management	Solano County Water Agency
21	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	YCFC&WCD/Madison CSD
22	West Adams Canal Renovation and China Slough Rehabilitation Project	YCFC&WCD
23	West Area Pond Redesign	City of Davis
24	Winters Bioswales Project and Habitat Enhancement	Solano County Water Agency
25	Winters North Area Stormwater Pond	YCFC&WCD
26	Yolo County Drains and Sloughs -- Governance and Maintenance Study	YCFC&WCD

Sources: Esri, USGS, NOAA, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Path: \\SFOISGDATA\Z Drive\Projects\Westside IRWMP\Events\2017\_05\_Yolo SWRP\mxd\Figure5-1\_SWRPProjectLocations.mxd



### 5.1.1.2 Arboretum Waterway Wetland Restoration and Enhancement

- **Project Applicant:** University of California, Davis
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Environmental, Community
- **Capital Cost:** \$4,000,000
- **Secured Funding/Source:** \$3,000,000/UC Davis
- **Annual Operations and Maintenance Cost/Funding Source:** \$20,000/General Fund
- **Benefit Metrics Value(s):** 935 acres of treated stormwater, 2,000 gpm of recycled water irrigation
- **Project Summary:** UC Davis is proposing to enhance the Arboretum Waterway, which captures stormwater discharge from 900 acres of the UC Davis campus, by establishing a wetland area to treat stormwater discharge and recycled water prior to discharge to Putah Creek. This project will include establishing wetlands, increasing stormwater retention, slope stabilization, enhancing a recreation area for the public, utilization of recycled water for irrigation, and creating public education opportunities.

### 5.1.1.3 Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental, Community
- **Capital Cost:** \$40,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$0 Additional/City of Davis Budget
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Redesign the current drainage and landscaping near greenbelt bike tunnels to prevent flooding from stormwater. Assess the top highly-trafficked tunnels with drainage issues within the greenbelt system (sites identified by staff include the North Davis greenbelt sections of Anderson and North Star as well Mace Ranch Park by Explore it and the

tunnel under Loyola). Improved drainage would include re-landscaping the areas surrounding these tunnels to prevent flood events and improve stormwater quality discharges through the use of different stormwater low impact design methods through infiltration, transpiration and evaporation. Each site could showcase a different method; signage near the tunnels would illustrate the project and highlight elements of the project design.

### 5.1.1.4 Davis Greenbelts Landscape Conversions

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Environmental, Community
- **Capital Cost:** \$234,849/acre converted
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** Increased habitat-1 acre for each site converted, potential to reach hundreds of residents per year with information on stormwater quality and water conservation.
- **Project Summary:** One of the greatest assets to the Davis park system is the network of more than 60 miles of Green Belts with bike trails that connect parks and neighborhoods throughout the City. Each belt is typically between 100 to 200 feet across with an 8-foot bike path meandering through the middle. Most of the landscape consists of irrigated turf and shade trees. Large open turf areas are greatly appreciated as multi-use event areas for local neighbors, but a majority of the space is mostly utilized by the public as aesthetic while passing through on the bike path. It is these spaces that are great candidates to convert existing turf to a low water use, drought tolerant landscape with interpretive learning opportunities to show the general public ways of converting their landscapes at home.

### 5.1.1.5 Drainage Channel Feasibility Study

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management

- **Capital Cost:** \$80,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** NA
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Looking to study feasibility to enhance the five separate storm drain conveyance channels to improve evapotranspiration through design improvements. This feasibility study would provide specific ways to improve the design of the existing facilities to improve water quality for the discharges that occur from each channel. The facilities are located Citywide. The study may yield that only one channel is worthy of modification. In particular, the City would like to study the El Macero Drainage Channel in southeast Davis as it is believed to be the channel with that would benefit the most from design improvements. A map can be provided to aid in located each of these drainage channels. If project is developed an educational component can be added.

#### 5.1.1.6 Dry Creek Bank Stabilization

- **Project Applicant:** Solano County Water Agency
- **Main Benefit Categories Met:** Environmental, Community
- **Capital Cost:** \$250,000
- **Secured Funding/Source:** Lower Putah Creek Coordinating Committee Vegetation Management (Proposed)
- **Annual Operations and Maintenance Cost/Funding Source:** \$5,000/ Lower Putah Creek Coordinating Committee
- **Benefit Metrics Value(s):** One to two acres of new riparian vegetation, number of enrolled landowners, reduce sediment loading along two miles of eroding banks stabilized by vegetation
- **Project Summary:** Dry Creek is a significant wildlife migration corridor that forms the western boundary of Winters with urban property to the north and east and agricultural land to the south and west. It is a deeply incised gully that is actively eroding both urban and agricultural properties. The City of Winters

wastewater treatment plant is adjacent to Dry Creek at the northeastern corner of the city and could provide treated wastewater for bioengineering projects to enhance both stability of the banks and wildlife habitat along two miles of creek channel.

#### 5.1.1.7 Feasibility Study of Stormwater: Trash Control Measures

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental
- **Capital Cost:** \$150,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** NA
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Feasibility study to assess options for storm water trash control measures. This study will assess the best method(s) to help the City meet mandatory requirements for trash screening to prevent trash from entering waterways. One particular area of concern is Channel A. An option for this area is to install trash racks/debris cages in the Wildhorse Basin to address issues with trash flowing from the area directly into Channel A. There is currently no barrier between the storm water from the basin and the channel. This study would provide an assessment of potential options to comply with the trash amendment requirements of the Small MS4 permit.

#### 5.1.1.8 Flood Monitoring Network Project

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Supply – Water Supply Reliability, Flood Management
- **Capital Cost:** To Be Determined
- **Secured Funding/Source:** To Be Determined
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** To Be Determined

**Project Summary:** To Be Determined

#### 5.1.1.9 Forbes Ranch Regulating Pond

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Supply, Flood Management, Community
- **Capital Cost:** \$700,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$50,000/District Water Users
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Develop and construct a 200 acre-feet regulating pond to reduce drainage and flood waters through the town of Madison and District canal system. Divert stormwater flows to the pond through the existing conveyance. The regulating pond would provide storm water retention during the winter and would allow for groundwater recharge in the spring and summer when capacity and water is available. The regulating pond would provide water quality benefits by allowing the sediments in the runoff to settle and lessening the transfer of pollutants and chemicals downstream. The surrounding area would have native vegetation that would promote benefits for wildlife habitat, and the property would allow for groups to visit and learn about the multi-functional project. Similar to the District's Chapman Reservoir, we would install automated gates and monitoring devices at the regulating pond that would be connected to the District's SCADA system for real-time management.

#### 5.1.1.10 Knights Landing Storm Drain Project

- **Project Applicant:** Yolo County
- **Main Benefit Categories Met:** Water Quality, Flood Management
- **Capital Cost:** \$100,000
- **Secured Funding/Source:** To Be Determined
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** To Be Determined

**Project Summary:** Design and construct a new storm drain or culvert in the vicinity of 4th and Railroad streets in the community of Knights Landing.

KL has historically experience standing water (localized flooding) in the northern portions of town that can be as deep as 2 feet in wet years. The new storm drainage would convey storm water to the County's existing drainage system on the east side of Railroad Street. Design and construction are proposed to be completed by Public Works.

#### 5.1.1.11 Knights Landing Underground Drainage Study

- **Project Applicant:** Yolo County
- **Main Benefit Categories Met:** Water Quality, Flood Management
- **Capital Cost:** \$100,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** NA

**Project Summary:** This project would model new underground drainage facilities for the entire Town of Knights Landing to determine location(s) for outfall to the Sacramento River or Ridge Cut Slough. Preliminarily it is estimated that the underground drainage facilities would be sized for 30-50 cfs of storm flows and the system outfall would need to be sized accordingly to prevent backup of the system. Outfall locations would also need to be evaluated to determine if the downstream capacity would be sufficient to convey this additional flow during storm events. LID strategies will be used to ensure discharge water quality does not impact the Sacramento River or Ridge Cut Slough water quality.

#### 5.1.1.12 Madison Drainage Study

- **Project Applicant:** Yolo County
- **Main Benefit Categories Met:** Water Quality, Flood Management
- **Capital Cost:** \$100,000
- **Secured Funding/Source:** To Be Determined
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** To Be Determined

**Project Summary:** This project would model new underground drainage facilities for the entire Town of Madison to determine location(s) for outfall (possibly

Cache Creek, the South Fork Willow Slough or Cottonwood Slough). The system outfall would need to be sized accordingly to prevent backup of the system. Outfall locations would also need to be evaluated to determine if the downstream capacity would be sufficient to convey this additional flow during storm events. LID strategies will be used to ensure discharge water quality does not negatively impact downstream water quality.

#### 5.1.1.13 Moore Siphon Reliability/Restoration Project

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Supply, Flood Management
- **Capital Cost:** \$1,000,000
- **Secured Funding/Source:** District Annual Budget
- **Annual Operations and Maintenance Cost/Funding Source:** \$20,000/District Annual Budget
- **Benefit Metrics Value(s):** Approximately 1 TAF/y reliable water supply, 15,000 acres of cropland stays in production, 200 AF/day of water supply for agriculture May-October (36 TAF/y)
- **Project Summary:** The Moore Siphon conveys irrigation water from the north side of Cache Creek (Alder Canal) to the south side (Moore Canal). Through the Moore Siphon, YCFC&WCD delivers water to approximately 15,000 acres of cropland (12% of its irrigation service area). This water also makes a significant recharge contribution to the City of Woodland's groundwater supply. Due to the age and exposure of the 72" corrugated metal pipe, as well as Cache Creek erosion issues at both ends of the siphon, the siphon well either need to be replaced or rehabilitated in the near future.

#### 5.1.1.14 North Regional Pond and Pump Station

- **Project Applicant:** City of Woodland
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Environmental
- **Capital Cost:** \$8,000,000

- **Secured Funding/Source:** Funded for 100% Construction Costs/Development Fees
- **Annual Operations and Maintenance Cost /Funding Source):** \$100,000/Landscape/Lighting District Fund
- **Benefit Metrics Value(s):** Up to 120 cfs treated stormwater, reliable 500 ac-ft of water during the non-rainy season, 75-acre pond vs. 75 acres of barren land
- **Project Summary:** The project involves the design and construction of an approximately 75-acre sedimentation pond and a pump station able to eventually accommodate a 120-cfs design flow. Project re-purposes an existing City evaporation pond that is no longer in use for any purpose. Currently the pond only receives nearby runoff.

This project will add the NR Pond hydraulically into the City's storm drainage network and include:

- Low flow training wall and inlet pipes from the Gibson Channel to the NR Pond
- High flow weir from South Canal to the NR Pond
- Outlet pipes from NR Pond to the South Canal
- Pump station at the downstream terminus of the South Canal
- Force main and outfall from the pump station to the outfall channel

#### 5.1.1.15 Raise Highway 16 Out of Flood Plain

- **Project Applicant:** Yolo County, Town of Madison, Yocha Dehe Wintun Nation, California Department of Transportation
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental
- **Capital Cost:** To Be Determined
- **Secured Funding/Source:** \$1,200,000/County Funds
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** NA



**Project Summary:** This project was initially proposed by Caltrans as flooding of Highway 16 is a chronic problem. The project was not constructed because of concerns of some farmers about grades at farm road crossings. Raising Highway 16 creates a barrier that could be used to store storm water north of the highway in detention basins/recharge ponds. Increasing the capacity of Willow Slough south of Highway 16 west of Madison is needed so that flows can be conveyed to the detention basins. Willow Slough is the source of the majority of flooding in Madison. Cottonwood Slough contributes to occasional flooding (last time was 1996) in Madison. This project could be coordinated with the Madison Canals project as other upstream diversions could benefit this project and/or the planned detention basins could be coordinated.

#### 5.1.1.16 Retention Pond Feasibility Study

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management
- **Capital Cost:** \$100,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$0 Additional/City of Davis Budget
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Looking to study feasibility for design enhancements for the seven separate storm drain retention ponds to improve evapotranspiration and water quality in the City's discharge. This feasibility study would provide specific ways to improve the design of the existing facilities to improve water quality for the discharges that occur from each facility. The facilities are located Citywide, but all of the ponds are located north of I 80 in the northern two thirds of the City. The study may yield that only one pond is worthy of modification. In particular, the City would like to study the Core Area Pond in central Davis as it believed to be the pond that receives the most pollutants from its drainage shed. A map can be provided to aid in located each of these ponds. If project is developed an educational component can be added.

#### 5.1.1.17 Russel Boulevard Demonstration LID Project

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental, Community
- **Capital Cost:** \$42,763
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$0 Additional/City of Davis Budget
- **Benefit Metrics Value(s):** 2080 cu. Ft. infiltration, 6,225 sq. ft. habitat, 7 trees, 500-1000 volunteer hrs/yr

**Project Summary:** The project is to be located in front of City Hall (already proposed and working its way through the City's Parks and Community Services Department) along Russell Boulevard. Russel Boulevard is one of the City's prominent east-west arterials. The project is to create a vegetated swale to treat stormwater runoff on the north side of the roadway. The surface area it will treat is 8,000 square feet. It is proposed to treat drainage prior to discharge to the City's storm drain system consistent with the standards of Section E.12 of the State's Small MS4 Phase II General Permit (Permit).

#### 5.1.1.18 Site Survey for Converting Rocky Swales to Bioswales

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental, Community
- **Capital Cost:** \$40,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$0 Additional/City of Davis Budget
- **Benefit Metrics Value(s):** NA
- **Project Summary:** In public greenbelts and parks, convert existing rocky drainage swales into bioswales to provide environmental benefits. Convert drainage in areas that currently use rocky swales, such as in Mace Ranch Park and the housing development behind Montgomery Elementary in South Davis,

to bioswales. Converting the existing rocky swales to vegetative bioswales will encourage microhabitats, beneficial insects, infiltration, transpiration, and evaporation to better showcase stormwater retention techniques. Other possible sites include Evergreen Pond and North Star Park.

#### 5.1.1.19 Site Survey for Hardscape Conversion to Pervious Pavement

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Environmental, Community
- **Capital Cost:** \$40,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$0 Additional/City of Davis Budget
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Survey public parking lots that currently have impervious surfacing to assess the practicality of converting these locations to pervious pavement when they are in need of resurfacing, maintenance or redesign. Portions of the pathways near the sites could potentially highlight permeable pavers in addition to the parking lots. Projects could be planned with improvements to incorporate bioswales, low water use plants, and other low-impact design measures into any landscape changes at the site. The projects would include signage on stormwater techniques implemented and information about water quality.

#### 5.1.1.20 Thompson Canyon Stormwater Management

- **Project Applicant:** Solano County Water Agency
- **Main Benefit Categories Met:** Water Quality, Environmental, Community
- **Capital Cost:** \$500,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** \$10,000/ Thompson Canyon Homeowner's Association

- **Benefit Metrics Value(s):** One mile of restored creek channel and access road, lack of interruption of drinking water processing, increased fish populations measured by average time to catch a fish
- **Project Summary:** Thompson Canyon is the first tributary from the north to Lower Putah Creek downstream of Monticello Dam. It was the main source of sediment loading into Lower Putah Creek in the highest storm runoff event in the history of the Solano Project (1983). Even in average rainfall years, sediment from Thompson Canyon has buried the best trout spawning site in the Interdam Reach. The lower mile of the canyon has a legacy dirt road that contributed to catastrophic hillslope failure. The road has thirty stream crossings without properly sized culverts or rock fords and is not properly outsloped for drainage. This project would repair the stream crossings, properly outslope the road and apply gravel surface. It would also install rock vanes for grade control in the channel.

#### 5.1.1.21 Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge

- **Project Applicant:** YCFC&WCD/Madison CSD
- **Main Benefit Categories Met:** Water Quality, Flood Management, Environmental
- **Capital Cost:** To Be Determined
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** NA

**Project Summary:** The District proposes to manage high flows from Lamb Valley, Cottonwood and S. Fork Willow Sloughs using the existing canal system as well as other means such as upstream check dams. During storm events, Willow Slough floods the Town of Madison. The Canal system can be used to convey water away from the Town of Madison and reduce flood levels while also managing peak flows through use of check dams, particularly in Lamb Valley Slough. Flow and water level monitoring could serve several purposes. GW recharge can be accomplished through canal bottoms and potential recharge/detention basins. P. 29 and 30 of the 2012 FIS describe some of the upstream channel capacity

limitations and a review of FIRM maps shows several points of intersection between the sloughs and canals to be explored. This project can be coordinated with Raising Highway 16 project.

#### 5.1.1.22 West Adams Canal Renovation and China Slough Rehabilitation Project

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Supply, Flood Management, Environmental
- **Capital Cost:** \$15,671,929
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** Unknown/Beneficiaries under an annexation process with YCFC&WCD
- **Benefit Metrics Value(s):** 10,000 AF increased surface water, 10,000 AF decreased groundwater use
- **Project Summary:** Enlargement and improvement of the Yolo County Flood Control & Water Conservation District's (District) West Adams, East Adams, and Acacia Canal system, and rehabilitation and improvement of China Slough (a natural storm drainage channel). The District's canal system would need to be modernized to allow for a "demand" system and to ensure no spills. China Slough would need to be cleaned, an operating road constructed, and installation of about eight check structures. Improvements to the canals and slough would be implemented to convey 10,000 acre-feet of surface water per year through China Slough to farmers in the Yolo-Zamora region (~4,200 acres).

#### 5.1.1.23 West Area Pond Redesign

- **Project Applicant:** City of Davis
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Environmental
- **Capital Cost:** \$100,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** NA

- **Benefit Metrics Value(s):** If the Project is implemented, 26.4 acres of open space that will be enhanced by aquatic wildlife and riparian habitat, 3.8 million gallons of treated stormwater per year
- **Project Summary:** Redesign the West Area Pond (detention basin) to utilize agricultural summer flows to enhance aquatic wildlife habitat and improve water quality. This proposal involves redirecting existing agricultural runoff through the Stonegate drainage pond and pumping it into the West Area Pond. This would enhance aquatic habitat while improving any water discharges through retention, enhancing opportunities for infiltration, transpiration and evaporation.

#### 5.1.1.24 Winters Bioswales Project and Habitat Enhancement

- **Project Applicant:** Solano County Water Agency
- **Main Benefit Categories Met:** Water Quality, Environmental, Community
- **Capital Cost:** \$195,328
- **Secured Funding/Source:** \$10,000/Solano County Water Agency; \$17,664.90/Individuals
- **Annual Operations and Maintenance Cost/Funding Source:** \$5,000/Solano County Water Agency+Volunteers
- **Benefit Metrics Value(s):** 5 acres of habitat restored, 3 community tours, 1 classroom component

**Project Summary:** Stormwater from the town of Winters drains residential areas, business districts, and undeveloped lands into a culvert system that delivers contaminated runoff to Putah Creek and one of its major tributaries, Dry Creek. Eighteen discharge points exist, eight of which are connected directly to Putah Creek, the remaining to Dry Creek. Three main culvert delivery sites occur within the Winters Putah Creek Nature Park (WPCNP), draining approximately 200 acres of impervious lands. The stormwater network drains streets, parking lots, businesses and suburban lots, over-irrigated landscapes and disturbed lands,

carrying sediment, petroleum products, fertilizers, pesticides, and bacteria into Putah Creek. We have assembled numerous stakeholders to begin addressing this water quality issue and are developing seasonal wetland (bioswale) water treatment projects within the WPCNP that will improve water quality, enhance floodplain function, restore wildlife habitat, and provide educational opportunities for the Winters community. By redirecting this stormwater runoff onto newly constructed floodplains of Putah Creek, water quality contaminants can be decreased through the breakdown action of sunlight, soil, plant roots and microorganisms. Moreover, the redirected water can assist in rehydrating portions of the floodplain during periods of drought and enhance riparian plant growth for the benefit of corridor wildlife. Each culvert outlet, along with the receiving floodplain landscape requires novel designs to redirect, capture, and infiltrate stormwater, all involving site-specific earthworks, specialized soil treatments, appropriate vegetation, monitoring, and post-installation management. We are conducting feasibility analyses and developing designs for the three major culvert networks within the park. We anticipate moving forward with implementation of our first site in Summer, 2018. Along with stormwater treatment and creekside improvements, we intend to develop a community outreach component that will educate people on "Upper Watershed" creek care within the suburban areas that comprise the stormwater drainage networks.

#### 5.1.1.25 Winters North Area Stormwater Pond

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Quality, Water Supply, Flood Management, Environmental, Community
- **Capital Cost:** To Be Determined
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined

- **Benefit Metrics Value(s):** NA
- **Project Summary:** Develop and construct a 5,000 acre-feet stormwater retention pond in the north area of Winters to reduce drainage and flood waters from the Chickahominy Slough. The retention pond would also be used for groundwater recharge in times when the capacity and water was available. The retention pond would provide water quality benefits by allowing the sediments in the runoff to settle and lessening the transfer of pollutants and chemicals downstream. The surrounding area would have native vegetation that would promote benefits for wildlife habitat, and the property would allow for groups to visit and learn about the multi-beneficial, multi-agency partnership. Similar to the District's Chapman Reservoir, we would install automated gates and monitoring devices at the retention pond that would be connected to the District's SCADA system for real-time management.

#### 5.1.1.26 Yolo County Drains and Sloughs – Governance and Maintenance Study

- **Project Applicant:** YCFC&WCD
- **Main Benefit Categories Met:** Water Supply, Flood Management
- **Capital Cost:** \$150,000
- **Secured Funding/Source:** None
- **Annual Operations and Maintenance Cost/Funding Source:** To Be Determined
- **Benefit Metrics Value(s):** NA
- **Project Summary:** Plan that will identify governing bodies and maintenance responsibilities involved in the County's drains, canals, and sloughs. The District and County will work together to develop a governance and maintenance study that will assist in providing effective rural storm water management responsibilities based on the defined governing bodies. Plan/investigation will initiate a legitimate storm water management program in Yolo County.

## 5.2 SWRP Objectives and Benefits

**Table 5-1** and **Table 5-2** summarize how the **26** projects submitted to the Yolo SWRP meet the SWRP Objectives and Benefit Categories presented in Section 1. These tables provide a preliminary check to make sure that the projects submitted to the Plan, at minimum, meet storm water and dry weather runoff-related objectives specific to Yolo County and storm water benefits specific to the Storm Water Resource Program.

The quantity and type of objectives each project meets provides a gauge on how well each project fits into this Yolo SWRP. In total, the submitted projects met all objective categories and 22 of the 27 SWRP objectives. Individually, projects met 1-6 out of 11 objective categories and 1-8 out of 27 SWRP objectives.

As stated in the previous subsection, projects submitted for implementation must result in at least 2 storm water benefits, in addition to providing quantification for at least 2 benefits. Eight projects identified at least one benefit in each benefit category and each identified 2-13 benefits. In total, the submitted projects identified benefits in all benefit categories (i.e., water supply, water quality, flood management, environmental, and community).

In addition to meeting the SWRP objectives and benefits, the submitted projects include:

- Augmentation of local water supply through groundwater recharge or storage for beneficial use of storm water and dry weather runoff – A total of 10 of the submitted projects will result in additional water supply.
  - The Davis Greenbelts Landscape Conversion Project, for example, will convert existing irrigated turf to a low water use, drought tolerant landscape. Water that would have been used to irrigate the turf will be left in the system and available for other uses, thus creating additional water supply.
- Opportunities for Source Control – A total of 13 of the submitted projects identified water quality benefits by non-point source (NPS) pollution control.
  - As rainfall flows over land, roads, buildings and other features of the landscape, NPS pollutants are carried into rivers and wetlands. The Knights Landing Drainage Study would model new underground drainage facilities for the entire Town of Knights Landing. The air-tight, water-tight system reduces overland transportation in urban areas and allows for more control of the system (trash racks, clean-out boxes, and BMPs), advancing the goal of achieving water quality goals and maintaining beneficial uses.
- Projects that Reestablish Natural Water Drainage Treatment and Infiltration Systems – A total of 20 of the submitted projects would result in the reestablishment of natural water drainage and treatment.
  - Storm water runoff from large cities can overwhelm storm drains and damage streams and rivers. The City of Woodland’s North Regional Pond and Pump Station Project involves the construction of a large pond to regulate flow. The pond will provide time for microbes in the water to consume nutrients and suspended solids to settle, and will remain full to permit infiltration at a rate of approximately 0.27 incher per hour.
- Opportunities to Develop, Restore, or Enhance Habitat and Open Space – A total of 17 of the submitted projects identified benefits related to environmental and habitat protection and improvement, as well as enhancement and/or creation of recreational and public use area.
  - The Winters Bioswales Project and Habitat Enhancement Project, for example, will redirect storm water runoff onto newly constructed floodplains of Putah Creek, which will assist in rehydrating portions of the floodplain during periods of drought and enhancing riparian plant growth for the benefit of corridor wildlife.
- Opportunities to Use Existing Publicly-Owned Lands and Easements – A total of 16 projects will be located on lands with public ownership.
  - The City of Davis Site Survey for Hardscape Conversion to Pervious Pavement will advance the goal of converting public parking lots with impervious surfacing to pervious pavement. Projects could be planned with improvement to incorporate bioswales, low water use plants, and other low-impact design measures into any landscape changes at the site.

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Table 5-1: Yolo SWRP Objectives Matrix

Project Number	Lead Agency Organization	Project Title	Water Quality			Water Supply			Flood Management			Environmental			Community			Public Education							
			Increase filtration and/or treatment of runoff	Nonpoint source pollution control	Reestablished natural water drainage and treatment	Water supply reliability	Water conservation	Conjunctive use	Decreased flood risk by reducing runoff rate and/or volume	Reduced sanitary sewer overflows	Environmental and habitat protection and improvement	Wetland enhancement/creation	Riparian enhancement	Instream flow improvement	Increased urban green space	Reduced energy use, greenhouse gas emissions, or provides a carbon sink	Reestablishment of the natural hydrograph	Water temperature improvements	Enhanced and/or created recreational and public use areas	Community involvement	Employment opportunities provided	Public education			
1	University of California, Davis	Agricultural Stormwater Improvements	X	X	X	X	X		X						X		X	X	X	X					
2	University of California, Davis	Arboretum Waterway Wetland Restoration and Enhancement	X	X	X	X	X		X			X			X		X	X	X	X					
3	City of Davis	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement	X				X		X			X								X					
4	City of Davis	Davis Greenbelts Landscape Conversions	X		X		X	X				X						X		X					
5	City of Davis	Drainage Channel Feasibility Study	X	X	X				X																
6	Solano County Water Agency	Dry Creek Bank Stabilization and Wastewater Re-use					X					X		X	X			X		X					
7	City of Davis	Feasibility Study for Stormwater Trash Control Measures	X						X			X													
8	YCFC&WCD	Flood Monitoring Network Project					X		X																
9	YCFC&WCD	Forbes Ranch Regulating Pond	X		X	X	X	X	X			X								X					
10	Yolo County	Knights Landing Storm Drain Project	X	X					X	X															
11	Yolo County/	Knights Landing Underground Drainage Study	X	X					X	X															
12	YCFC&WCD/Madison CSD	Madison Drainage Study	X	X					X	X															
13	YCFC&WCD	Moore Siphon Reliability/ Restoration Project					X	X	X	X															
14	City of Woodland	North Regional Pond and Pump Station	X	X			X		X			X			X			X							
15	Yolo County	Raise Highway 16 Out of Flood Plain					X	X	X	X					X			X							
16	City of Davis	Retention Pond Feasibility Study	X	X	X				X																
17	City of Davis	Russell Boulevard Demonstration LID Project	X		X		X		X			X			X			X	X	X	X				
18	City of Davis	Site Survey for Converting Rocky Swales to Bioswales	X				X		X			X								X					
19	City of Davis	Site Survey for Hardscape Conversion to Pervious Pavement	X						X			X				X				X					
20	Solano County Water Agency	Thompson Canyon Stormwater Management	X	X	X	X	X					X						X							
21	YCFC&WCD/Madison CSD	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	X						X						X			X							
22	YCFC&WCD	West Adams Canal Renovation and China Slough Rehabilitation Project					X	X	X						X										
23	City of Davis	West Area Pond Redesign	X	X			X		X			X													
24	Solano County Water Agency	Winters Bioswales Project and Habitat Enhancement	X	X	X							X					X	X		X					
25	YCFC&WCD	Winters North Area Stormwater Pond	X		X	X	X	X	X			X								X					
26	YCFC&WCD	Yolo County Drains and Sloughs – Governance and Maintenance Study					X	X	X																
		<b>Total</b>	<b>20</b>	<b>11</b>	<b>10</b>		<b>12</b>	<b>10</b>	<b>8</b>		<b>22</b>	<b>3</b>		<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>9</b>	<b>4</b>	<b>3</b>	<b>11</b>

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Table 5-2: Yolo SWRP Benefits Matrix

Project Number	Lead Agency Organization	Project Title	Education and Awareness Focus		Habitat Focus	3. Restore native vegetation/form/function along riparian/aquatic corridors	4. Quantify the extent of suitable life-cycle habitat for Threatened/Endangered/Imperiled native fish	5. Prioritize/plan/schedule improvements to suitable life-cycle habitat for T/E/I native fish	6. Increase availability of suitable life-cycle habitat for Threatened/Endangered/Imperiled native fish identified by Objective 5.	Invasive Species Focus		8. Establish invasive plant management plan	9. Implement invasive plant management plan	Infrastructure Focus	10. Create asset management plan for key water management infrastructure	Reasonable Use Focus		Recreation Focus
			1. Provide and promote use of educational curricula for K-12 students	2. Provide educational information to encourage stewardship by public						7. Prevent colonization by quagga mussels/zebra mussels and eliminate/prevent spread of New Zealand mud snails	11. Meet 20% by 2020 conservation targets					12. Increase adoption of agricultural Best Management Practices	13. Maintain and increase water-related recreational opportunities	
1	University of California, Davis	Agricultural Stormwater Improvements																
2	University of California, Davis	Arboretum Waterway Wetland Restoration and Enhancement				x												
3	City of Davis	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement		x														
4	City of Davis	Davis Greenbelts Landscape Conversions		x														
5	City of Davis	Drainage Channel Feasibility Study						x										
6	Solano County Water Agency	Dry Creek Bank Stabilization and Wastewater Re-use				x												
7	City of Davis	Feasibility Study for Stormwater Trash Control Measures				x		x										
8	YCFC&WCD	Flood Monitoring Network Project																
9	YCFC&WCD	Forbes Ranch Regulating Pond		x														
10	Yolo County	Knights Landing Storm Drain Project																
11	Yolo County/	Knights Landing Underground Drainage Study																
12	YCFC&WCD with Madison CSD	Madison Drainage Study																
13	YCFC&WCD	Moore Siphon Reliability/ Restoration Project						x	x		x		x			x		
14	City of Woodland	North Regional Pond and Pump Station												x				x
15	Yolo County	Raise Highway 16 Out of Flood Plain																
16	City of Davis	Retention Pond Feasibility Study						x										
17	City of Davis	Russell Boulevard Demonstration LID Project						x										
18	City of Davis	Site Survey for Converting Rocky Swales to Bioswales		x														
19	City of Davis	Site Survey for Hardscape Conversion to Pervious Pavement		x														
20	Solano County Water Agency	Thompson Canyon Stormwater Management				x												
21	YCFC&WCD with Madison CSD	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge																
22	YCFC&WCD	West Adams Canal Renovation and China Slough Rehabilitation Project																
23	City of Davis	West Area Pond Redesign				x		x										
24	Solano County Water Agency	Winters Bioswales Project and Habitat Enhancement	x			x												
25	YCFC&WCD	Winters North Area Stormwater Pond		x														
26	YCFC&WCD	Yolo County Drains and Sloughs -- Governance and Maintenance Study												x				
<b>Total</b>			<b>1</b>	<b>6</b>		<b>6</b>	<b>0</b>	<b>0</b>	<b>6</b>		<b>1</b>	<b>0</b>	<b>1</b>	<b>4</b>		<b>1</b>	<b>1</b>	<b>2</b>

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Project Number	Lead Agency Organization	Project Title	Risk Management Focus	14. Provide adequate flood protection	15. Manage watershed activities to reduce large erosion events	Understand Watershed Function Focus	16. Monitor state/federal Delta programs	17. Monitor conditions/improve understanding to support sustainable groundwater basins	18. Maintain/enhance watershed and natural resource monitoring network and information sharing	Water Quality Focus	19. Address pollutant sources to meet runoff standards and Total Maximum Daily Load (TMDL) targets	20. Minimize accidental wastewater spillage/discharges	21. Reduce public health risks by reducing contaminants in drinking water sources	22. Meet all drinking water and wastewater discharge standards	Water Supply Focus	23. Provide 100% reliability of municipal and industrial water supplies	24. Provide agricultural water supplies to support a robust agricultural industry	Storm Water Focus	25. Convert paved and/or impervious areas and increase tree canopy and vegetation, reducing urban heat island effects.	26. Optimize the rural storm water conveyance system to drain and retain storm water flows as necessary. Provide proper rural drainage and keep conveyance systems clear of debris to minimize county road flooding during storm events.	27. Enable proper rural retention and modify rural landscape to maximize groundwater recharge of excess storm water.
1	University of California, Davis	Agricultural Stormwater Improvements									x						x			x	x
2	University of California, Davis	Arboretum Waterway Wetland Restoration and Enhancement		x																	
3	City of Davis	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement		x				x			x										
4	City of Davis	Davis Greenbelts Landscape Conversions														x			x		
5	City of Davis	Drainage Channel Feasibility Study		x				x			x										
6	Solano County Water Agency	Dry Creek Bank Stabilization and Wastewater Re-use			x										x	x		x	x		
7	City of Davis	Feasibility Study for Stormwater Trash Control Measures		x				x			x										
8	YCFC&WCD	Flood Monitoring Network Project							x								x		x		
9	YCFC&WCD	Forbes Ranch Regulating Pond		x	x			x	x								x		x	x	x
10	Yolo County	Knights Landing Storm Drain Project		x							x	x		x					x		
11	Yolo County/	Knights Landing Underground Drainage Study		x							x			x					x		
12	YCFC&WCD with Madison CSD	Madison Drainage Study		x							x			x					x		
13	YCFC&WCD	Moore Siphon Reliability/ Restoration Project																	x		
14	City of Woodland	North Regional Pond and Pump Station		x	x						x						x		x		
15	Yolo County	Raise Highway 16 Out of Flood Plain		x											x	x			x		
16	City of Davis	Retention Pond Feasibility Study		x				x			x										
17	City of Davis	Russell Boulevard Demonstration LID Project		x				x			x								x		
18	City of Davis	Site Survey for Converting Rocky Swales to Bioswales		x				x			x										
19	City of Davis	Site Survey for Hardscape Conversion to Pervious Pavement		x				x			x								x		
20	Solano County Water Agency	Thompson Canyon Stormwater Management																			
21	YCFC&WCD with Madison CSD	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge		x	x				x						x	x			x	x	x
22	YCFC&WCD	West Adams Canal Renovation and China Slough Rehabilitation Project		x	x			x	x								x		x	x	x
23	City of Davis	West Area Pond Redesign		x				x			x								x	x	x
24	Solano County Water Agency	Winters Bioswales Project and Habitat Enhancement																			x
25	YCFC&WCD	Winters North Area Stormwater Pond		x	x			x	x								x				x
26	YCFC&WCD	Yolo County Drains and Sloughs – Governance and Maintenance Study		x	x			x	x											x	
		<b>Total</b>		<b>19</b>	<b>7</b>		<b>0</b>	<b>12</b>	<b>6</b>		<b>13</b>	<b>1</b>	<b>0</b>	<b>3</b>		<b>4</b>	<b>9</b>		<b>4</b>	<b>14</b>	<b>7</b>

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## 5.3 Evaluation and Prioritization of Projects

This section outlines the approach taken in the evaluation and prioritization of those projects identified as implementation projects. The method used in this SWRP is based upon the SWRP Guidelines (SWRCB 2015) which recommend a project prioritization and screening process that involves both tangible (i.e., quantitative) benefit and intangible benefit evaluations. As stated in Section 5.1.10, projects were initially pre-screened and resulted in the 9 projects selected for evaluation under this plan because the projects provide storm water or flood management focus with clear benefits and are located within the planning area. Three scoring categories were developed for this plan and are presented below:

1. Scoring Category 1: Two questions regarding project funding availability and project location and land access, as further described in Section 5.2.1.
2. Scoring Category 2: A multiple benefits analysis based upon the main and additional benefits provided in Table 4 of the SWRP Guidelines (SWRCB 2015), as further described in Section 5.2.2.
3. Scoring Category 3: A quantitative metrics-based benefit analysis based upon the quantitative metrics suggested in the SWRP Guidelines (SWRCB 2015), as further described in Section 5.2.3.

A total of 250 points are distributed between the three scoring categories with 80 points for Scoring Category 1; 50 points for Scoring Category 2 and 120 points for Scoring Category 3. The distribution of the total points to the three scoring categories reflects both the relative importance derived from the SWRP guidelines as well as a means of balancing the merits of each project. Points were assigned to a variety of elements within each scoring category and summed to give a total score per category as detailed in Sections 5.2.1- 5.2.3 below.

Each of the categories were then summed at the end to give a total project score. Projects were ranked based on their total scores. The scoring process is summarized in Figure 5-2.

Projects were evaluated based upon their project proposal forms submitted to the Westside IRWM and the Storm Water Addendum Form. Proponents were asked to support claims made for various benefits (both main and additional) as well as identify quantitative metrics-based benefits.

At a minimum, each project will contribute to at least two or more Main Benefits and a number of Additional Benefits as listed in Table 4 of the SWRP Guidelines.

### 5.3.1 Scoring Category 1 - Project Funding and Land Availability

- SWRP Guidelines (SWRCB 2015) recommend projects or programs supported by proponent entities that will create, "permanent, local, or regional funding."
  - If projects were able to secure some sort of permanent funding to achieve the claimed benefits they were assigned a yes (i.e., "Y") for a value of 40 points. Projects without any other funding commitments were assigned a no (i.e., "N") for a value of 0 points.
- In addition to funding, the SWRP Guidelines (SWRCB 2015) recommends projects "use existing publicly owned lands and easements" in accordance with the Water Code §10562(e).
  - Project were assigned a yes (i.e., "Y") for a value of 40 points if land access or agreements were available and were assigned a no (i.e., "N") for a value of 0 points if these access or agreements weren't available.

Projects were assigned either a total of 0, 40, or 80 points for Scoring Category 1 based on the answers to the funding and project land access questions.

### 5.3.2 Scoring Category 2 - SWRP Multiple Benefits Analysis

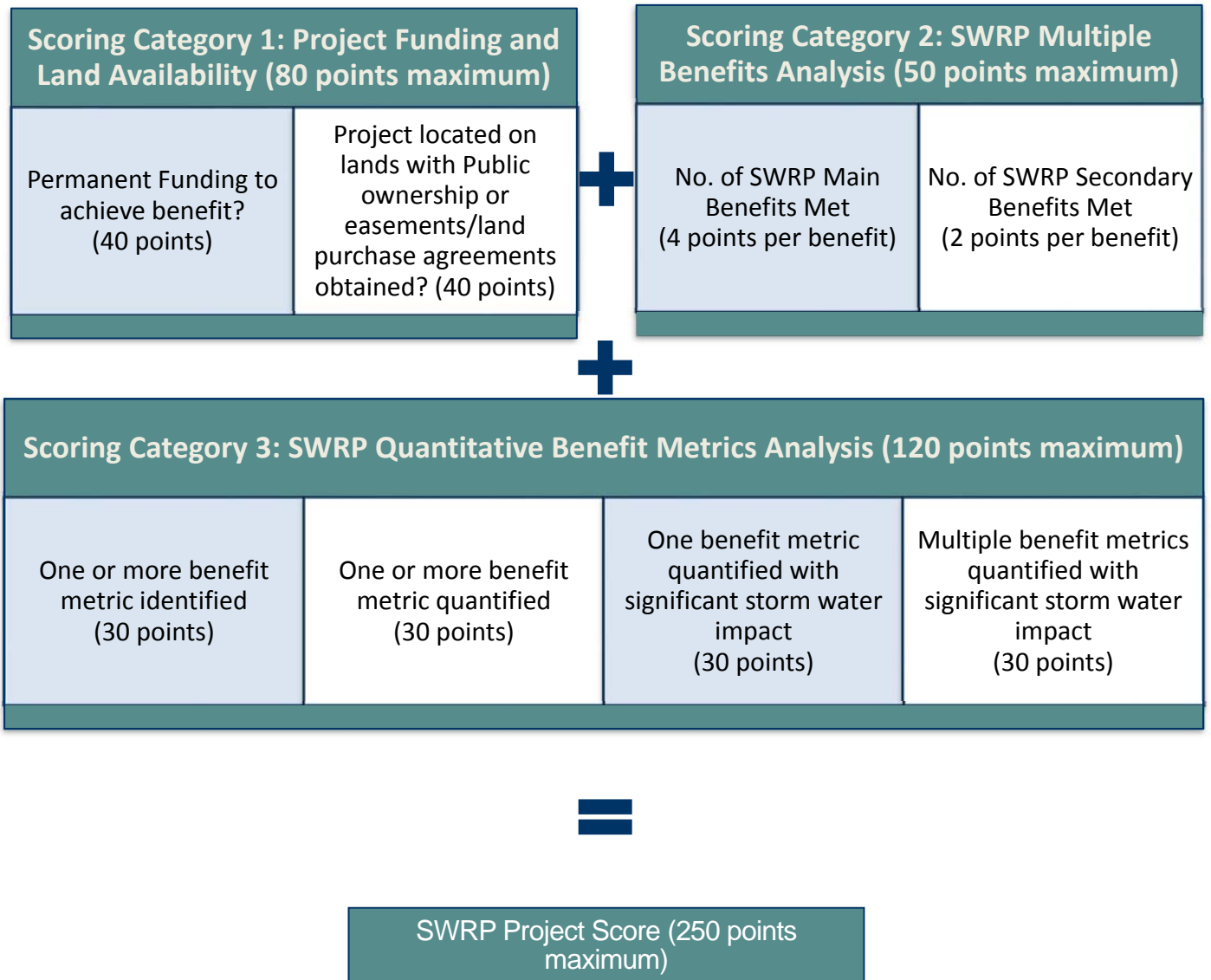
- A multiple benefit analysis was performed and is based on the main and secondary (i.e., additional) benefits list from SWRP Guidelines (SWRCB 2015).

- Benefits which fall under five broad categories: water quality, water supply, flood management, environmental, and community.
  - The SWRP Guidelines require that projects meet “at least two or more” main benefits and as many secondary benefits as possible
    - ◆ Main benefits – 4 points each
    - ◆ Secondary benefits – 2 points each.
  - Each project evaluated against each benefit.
    - Total number of main and secondary benefits, multiply by assigned point value.
    - Points totaled for each project, with a maximum of 50 points allowed for Scoring Category 2.
  - After review, allow project proponent entities to defend benefits claimed for their projects as well as explain why certain benefits may be too difficult to claim and therefore would not be relevant to their project goals.
- A score of 60 was assigned if a project met all of the criteria of the previous rating and in addition could identify one or more benefit metrics with at least one corresponding quantified value. Projects kept from a higher rating (see above) if the value quantities were low, the metrics had minimal or insignificant perceived storm water impact, or if only one of several metrics was able to be quantified.
  - A score of 90 was assigned if a project met all of the criteria of the previous two ratings and in addition could identify one or more benefit metrics with at least one corresponding quantified values. Projects given this rating if they had higher quantity values or had more impactful or significant storm water benefit metrics than rating 2 (see above).
  - A score of 120 was assigned if a project met all of the criteria of the previous three and in addition could identify one or more benefit metrics with one or more corresponding quantified values. Projects given full rating score if identify multiple benefit metrics with corresponding values. Each benefit metric must also be deemed to have higher quantity values and more impactful or significant storm water benefit metrics than the previous three ratings.

### 5.3.3 Scoring Category 3 - SWRP Quantitative Benefit Metrics Analysis

- Purpose: to add a quantitative metrics-based approach to capture the tangible benefits provided by each project and to demonstrate the specific benefits each project will have on the Planning Area.
  - Identifying quantitative metric(s) specific to one or more main and secondary benefits (herein referred to as “benefit metrics”).
  - Identify value
- The comparative ratings system is based on the number of benefit metrics identified, number of benefit metrics quantified, and the significance of stormwater impacts. Points were assigned to each category as follows:
  - A score of zero (0) was assigned if a project was not able to identify a benefits metrics with current quantifiable values or values to be calculated later.
  - A score of 30 was assigned if a project could identify one or more benefit metrics however could not quantify the metric(s) at this time.

Figure 5-2: Yolo SWRP Project Scoring Process



## 5.4 Summary of Project Prioritization and Selection

Table 5-3 presents the current prioritization of projects. In total, 9 projects were prioritized and ranked yielding total scores from 146 points to 238 points based on the scoring system developed in Section 5.2. The scores developed in this SWRP are for the purposes of prioritizing and ranking projects as required by the SWRP Guidelines. The purpose is to identify and develop projects with clear storm water and dry weather runoff goals that also provide multiple public water quality and supply benefits, and have been identified, prioritized, and selected based on a metrics-driven analysis. The relative prioritization of projects in this plan does not restrict any project from applying to or attaining State grant money funded by any bond measure approved by voters after January 2014, which includes Proposition 1 funding for implementation.

To prevent storm water and dry weather runoff pollution and increase effective storm water and dry weather runoff management, implementation of any project submitted to the Yolo SWRP will comply with the design criteria and/or best management practices specified by Yolo County and/or specific local jurisdictions and programs. This is described in further detail in Section 6 Implementation Strategy and Schedule.



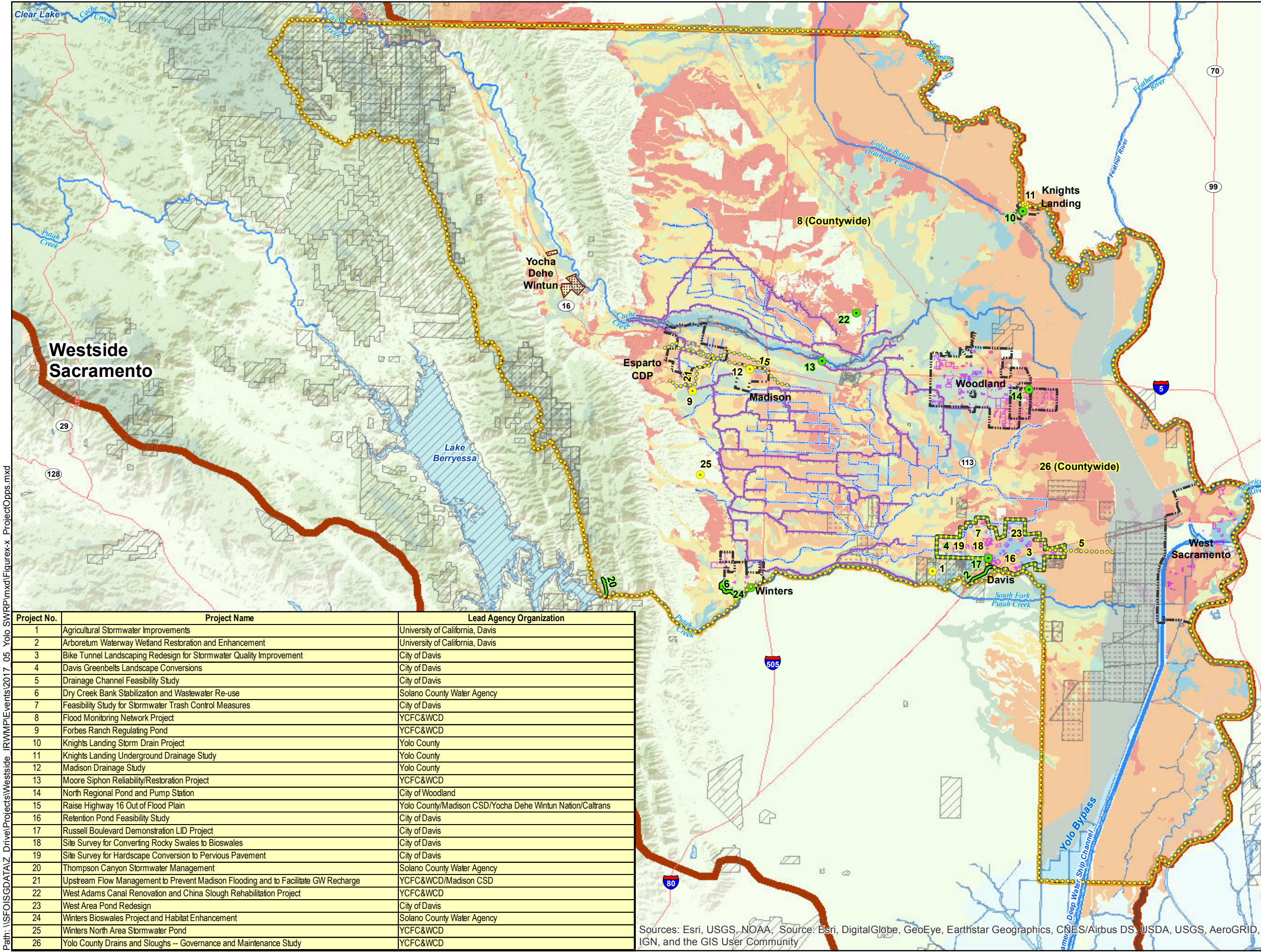
Table 5-3: Yolo SWRP Project Prioritization and Scoring

Project Number	Project Name	Scoring Category 1: Project Funding and Land Availability				Scoring Category 2: SWRP Multiple Benefits Analysis																						
		Permanent Funding to achieve benefit? Scoring: (40 points)	Project located on lands with Public ownership? Scoring: (40 points)	Category 1 Score (80 max)	Match Provided	Water Quality			Water Supply			Flood Management		Environmental					Community				No. of SWRP Main Benefits Met Scoring: (4 points for each benefit)	No. of SWRP Secondary Benefits Met Scoring: (2 point for each benefit)	Total No. of Intangible Objectives-based Benefits	Category 2 Score (50 max)		
						Increased filtration and/or treatment of runoff	Nonpoint source pollutant control	Reestablished natural water drainage and treatment	Water supply reliability	Conjunctive use	Water conservation	Decreased flood risk by reducing runoff rate and/or volume	Reduced sanitary sewer overflows	Environmental and habitat protection and improvement	Reduced energy use, greenhouse gas emissions, or provides a carbon sink	Reestablishment of the natural hydrograph	Increased urban green space	Water temperature improvements	Employment opportunities provided	Public education	Community involvement	Enhance and/or create recreational and public use areas						
2	Arboretum Waterway Wetland Restoration and Enhancement	Y	Y	80	Y	x	x	x	x		x			x	x	x					x	x	x	x	6	7	13	38
4	Davis Greenbelts Landscape Conversions (Davis Greenbelts Stormwater Improvements)	Y	Y	80	N	x		x			x			x								x		x	3	3	6	18
6	Dry Creek Bank Stabilization and Wastewater Re-use	Y	N	40	N						x			x	x		x					x	x		3	3	6	18
8	Flood Monitoring Network Project	N	Y	40	N	x			x		x													3	1	4	14	
10	Knights Landing Storm Drain	N	Y	40	Y	x	x					x	x											2	2	4	12	
13	Moore Siphon Reliability/Restoration Project (Moore Siphon Stormwater Improvements)	Y	Y	80	N				x	x	x	x												3	1	4	14	
14	North Regional Pond and Pump Station	Y	Y	80	Y	x	x		x			x		x			x						x	5	2	7	24	
17	Russel Boulevard Demonstration LID Project (Russel Boulevard Stormwater Treatment Project)	N	Y	40	Y	x		x			x			x			x			x	x	x	x	6	4	10	32	
20	Thompson Canyon Stormwater Management	Y	N	40	N	x	x	x			x			x									x	2	4	6	16	
23	West Adams Canal Renovation and China Slough Rehabilitation Project	Y	N	40	N				x	x		x		x										4	0	4	16	
24	Winters Bioswales Project and Habitat Enhancement	Y	Y	80	Y	x	x	x						x				x				x		3	4	7	20	

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Project Number	Project Name	Scoring Category 3: SWRP Quantitative Benefit Metrics Analysis			Project Scoring and Prioritization
		Benefit Metrics Analysis Type	Quantitative Benefit Metrics Value	SWRP Relative Benefits Scoring (0, 30, 90, 120)	SWRP Project Score (250 max) Scoring: (Sum of Categories 1, 2, and 3)
2	Arboretum Waterway Wetland Restoration and Enhancement	Treatment of stormwater runoff, recycled water for irrigation, establish wetland habitat, employment opportunities	935 acres of treated stormwater, 2,000 gpm of recycled water irrigation,	120	<b>238</b>
4	Davis Greenbelts Landscape Conversions (Davis Greenbelts Stormwater Improvements)	Prevent runoff, enhance habitat, recharge aquifers, LID signage, turf removal, enhanced green space	Public education: 385 persons/ac/yr, Water Conservation: 1.2 Mgal/yr/ac, Habitat/Enhanced Rec Space: 1 ac/site	90	<b>188</b>
6	Dry Creek Bank Stabilization and Wastewater Re-use	Provide cover for migrating wildlife, provide a shady corridor in what is now a dry gully, enhance public policy from non-conforming setbacks to effective bank stabilization, re-use treated wastewater to irrigate riparian plantings, riparian vegetation is a carbon sink, Inform Dry Creek landowners of a cost-effective bank stabilization method	1-2 acres of new riparian vegetation, Number of enrolled landowners, reduce sediment loading along two miles of eroding banks stabilized by vegetation	90+	<b>148</b>
8	Flood Monitoring Network Project				
10	Knights Landing Storm Drain	Captures and conveys flood water to the town's existing conveyance system. Localized flooding as much as 2 feet during an event. Yolo County Drainage Standard requires all detention facilities to minimize impacts of stormwater runoff on water quality by incorporating BMPs.			
13	Moore Siphon Reliability/Restoration Project (Moore Siphon Stormwater Improvements)	Allows for irrigation season flows to continue to 12% of District's agricultural users, allows farmers to use surface water in lieu of relying on groundwater, reduces runoff rate to upstream and downstream surrounding properties by properly conveying flows and reducing leaking, Rehabilitating the Moore Siphon will prevent current leakage.	Approximately 1 TAF/y, 15,000 acres of cropland stays in production 200 AF/day of water supply for agriculture May-October (36 TAF/y),	120	<b>214</b>
14	North Regional Pond and Pump Station	treatment of the stormwater prior to discharge to the City's outfall channel, possible transmission of stored water from NR pond to adjacent farmland, 75-acre pond vs 75-acre barren land, treating stormwater before discharge to the City's outfall channel, additional birding habitat	up to 120 cfs treated, reliably 500-ac ft of water during non-rainy season, 75-acre pond vs 75-acre barren land	120	<b>224</b>
17	Russel Boulevard Demonstration LID Project (Russel Boulevard Stormwater Treatment Project)	Increased habitat, increased infiltration, volunteer opportunities, increased green space, reestablish natural drainage,	2080 cu ft infiltration, 6,225 sq ft habitat, 7 trees, 500-1000 volunteer hrs/yr,	120	<b>192</b>
20	Thompson Canyon Stormwater Management	reduced sediment loading, infiltration strips capture more surface water and reduce runoff, infiltration strips capture more surface water and reduce runoff, enhance fishing at 5 Putah Creek fishing accesses visited by 100,000 people per year	1 river mile of restored creek channel and access road, 10,000 square feet of native vegetation established	120	<b>176</b>
23	West Adams Canal Renovation and China Slough Rehabilitation Project	Increases water supply availability and reliability to Yolo-Zamora area; and reduces dependence on groundwater, preserves groundwater supplies by providing available surface water supplies, Reduced peak discharge from storm events to region,	10,000 acre-feet increased surface water; 10,000 AF decreased groundwater use, need to study peak storm flows in this region	90	<b>146</b>
24	Winters Bioswales Project and Habitat Enhancement	Treatment of stormwater runoff, habitat improvement, community involvement (volunteering),	5 acres of habitat restored, 3 community tours and 1 classroom component.	90	<b>190</b>

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— Sloughs w/in YCFC&WCD Boundary  
— Canals w/in YCFC&WCD Boundary  
  City Public Properties  
  County Zoning - Public  
  Public Agency Jurisdiction  
  Yolo SWRP Boundary  
  Westside Region

**Projects**

- Conceptual/Planning
- Implementation
- Implementation
- Conceptual/Planning

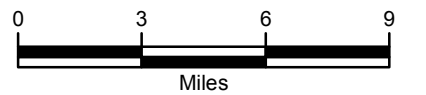
**SAGBI - Modified**

- Excellent
- Good
- Moderately Good
- Moderately Poor
- Poor
- Very Poor

The Soil Agricultural Groundwater Banking Index (SAGBI) is a suitability index for groundwater recharge on agricultural land. The SAGBI is based on five major factors that are critical to successful agricultural groundwater banking: deep percolation, root zone residence time, topography, chemical limitations, and soil surface condition.

Modified overlay is theoretical; it shows SAGBI suitability groups when assuming that all soils with restrictive layers have been modified by deep tillage.

Source:  
<https://casoilresource.lawr.ucdavis.edu/sagbi/>  
 SAGBI overlay provided by Toby O'Geen (atogeen@ucdavis.edu), Professor & Soil Resource Specialist in Cooperative Extension, Dept. of Land, Air and Water Resources, UC Davis.



**Kennedy/Jenks Consultants**

**Storm Water Resource Plan  
For Yolo County**



**SWRP Project Locations**

Project No.	Project Name	Lead Agency Organization
1	Agricultural Stormwater Improvements	University of California, Davis
2	Arboretum Waterway Wetland Restoration and Enhancement	University of California, Davis
3	Bike Tunnel Landscaping Redesign for Stormwater Quality Improvement	City of Davis
4	Davis Greenbelts Landscape Conversions	City of Davis
5	Drainage Channel Feasibility Study	City of Davis
6	Dry Creek Bank Stabilization and Wastewater Re-use	Solano County Water Agency
7	Feasibility Study for Stormwater Trash Control Measures	City of Davis
8	Flood Monitoring Network Project	YCFC&WCD
9	Forbes Ranch Regulating Pond	YCFC&WCD
10	Knights Landing Storm Drain Project	Yolo County
11	Knights Landing Underground Drainage Study	Yolo County
12	Madison Drainage Study	Yolo County
13	Moore Siphon Reliability/Restoration Project	YCFC&WCD
14	North Regional Pond and Pump Station	City of Woodland
15	Raise Highway 16 Out of Flood Plain	Yolo County/Madison CSD/Yocha Dehe Wintun Nation/Caltrans
16	Retention Pond Feasibility Study	City of Davis
17	Russell Boulevard Demonstration LID Project	City of Davis
18	Site Survey for Converting Rocky Swales to Bioswales	City of Davis
19	Site Survey for Hardscape Conversion to Pervious Pavement	City of Davis
20	Thompson Canyon Stormwater Management	Solano County Water Agency
21	Upstream Flow Management to Prevent Madison Flooding and to Facilitate GW Recharge	YCFC&WCD/Madison CSD
22	West Adams Canal Renovation and China Slough Rehabilitation Project	YCFC&WCD
23	West Area Pond Redesign	City of Davis
24	Winters Bioswales Project and Habitat Enhancement	Solano County Water Agency
25	Winters North Area Stormwater Pond	YCFC&WCD
26	Yolo County Drains and Sloughs -- Governance and Maintenance Study	YCFC&WCD

Sources: Esri, USGS, NOAA, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Path: \\SFOISGDATAZ\_Drive\Projects\Westside\_IRWMP\Events\2017\_05\_Yolo\_SWRP\mxd\Figure5-1\_SWRPProjectLocations.mxd