Briefing to the Central Valley Flood Protection Board

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June 24, 2011

Part 1. Background and Current Status of Lower San Joaquin Flood Bypass (John Cain)

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Lower San Joaquin River Flood Bypass Proposal

Submitted to California Department of Water Resources

Submitted March, 2011

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Lower San Joaquin River Bypass Proposal

SUMMARY

The South Delta Levee Protection and Channel Maintenance Authority together with several partners, has applied to the Department of Water Resources for a $5 million grant to create a new flood bypass on the Lower San Joaquin River. The proposed bypass is located in the last corridor of undeveloped land between Lathrop and Tracy and is necessary to reduce flood risk for tens of thousands of people in Stockton, Lathrop, and Manteca. The grant would fund the first phase of planning and property acquisition.

The proposed bypass (Figure 1) would route floodwaters out of a highly constrained urbanizing reach of the San Joaquin River system between Mossdale and Stockton, and away from densely developed communities in Manteca, Lathrop, and Stockton. Floodwaters would instead be routed into larger channels through a rural area of the Delta Primary zone where urban development is prohibited. The proposedypass would reduce flood stages significantly at Mossdale—by 1.8 feet under both a 50-year AEP and the modeled 1997-year flood scenario.

Expanded conveyance capacity would also provide habitat, agricultural conservation, and water supply benefits. The bypass would offer habitat and migration corridors for terrestrial and aquatic Delta species of concern including juvenile steelhead, salmon and spawning splittail. Acquiring flood and conservation easements across agricultural lands in the Pescadero tract would slow the inexorable pressure for urban development and support long-term stewardship and preservation of agricultural land. Increased conveyance capacity on the San Joaquin River would provide flexibility in how upstream reservoirs are managed so operators may more effectively maximize water supply without subjecting downstream communities to increased flood risk.

The proposed bypass location is the *only* opportunity for expanding conveyance capacity through the lower San Joaquin River. Expanding conveyance capacity on the lower San Joaquin River is necessary to safely convey floods in an era of climate change and rising sea levels. The proposed bypass location immediately south and west of Paradise Cut is the best, and perhaps only, opportunity for expanding flood conveyance capacity through the lower San Joaquin River and into the Delta. Other lands north and east of Paradise Cut are already developed or zoned for urban development.

Goals

- Substantially reduce flood stage on the mainstem San Joaquin River between Mossdale and Stockton.
- Reduce the probability of catastrophic urban flooding and loss of life in the communities of Lathrop, Manteca, Stockton, and unincorporated San Joaquin County.
- Substantially increase flood conveyance capacity through a constrained reach of the San Joaquin River floodway.
- Provide floodplain and riparian habitat for a variety of sensitive species including riparian brush rabbit, giant garter snake, Sacramento splittail, and juvenile Chinook salmon.
- Preserve agricultural land and protect it from uncontrolled flooding.

Project Partners

The Lower San Joaquin River Bypass is a collaborative effort between local agencies including the South Delta Water Agency, the River Islands Development Company, Reclamation District 2062, San Joaquin Resource Conservation District, American Rivers, the American Lands Conservancy, and the Natural Resources Defense Council. It will be developed and managed locally by the South Delta Channel and Levee Maintenance Authority, a local JPA comprised of the South Delta Water Agency and Reclamation

District 2062. The University of the Pacific has agreed to provide technical review to improve the planning and public outreach processes.

Location

The proposed Lower San Joaquin River Flood Bypass is located in San Joaquin County on the lower San Joaquin River upstream of Stockton and would be situated immediately southwest of Paradise Cut on lands both upstream and downstream of the Interstate 5 crossing.

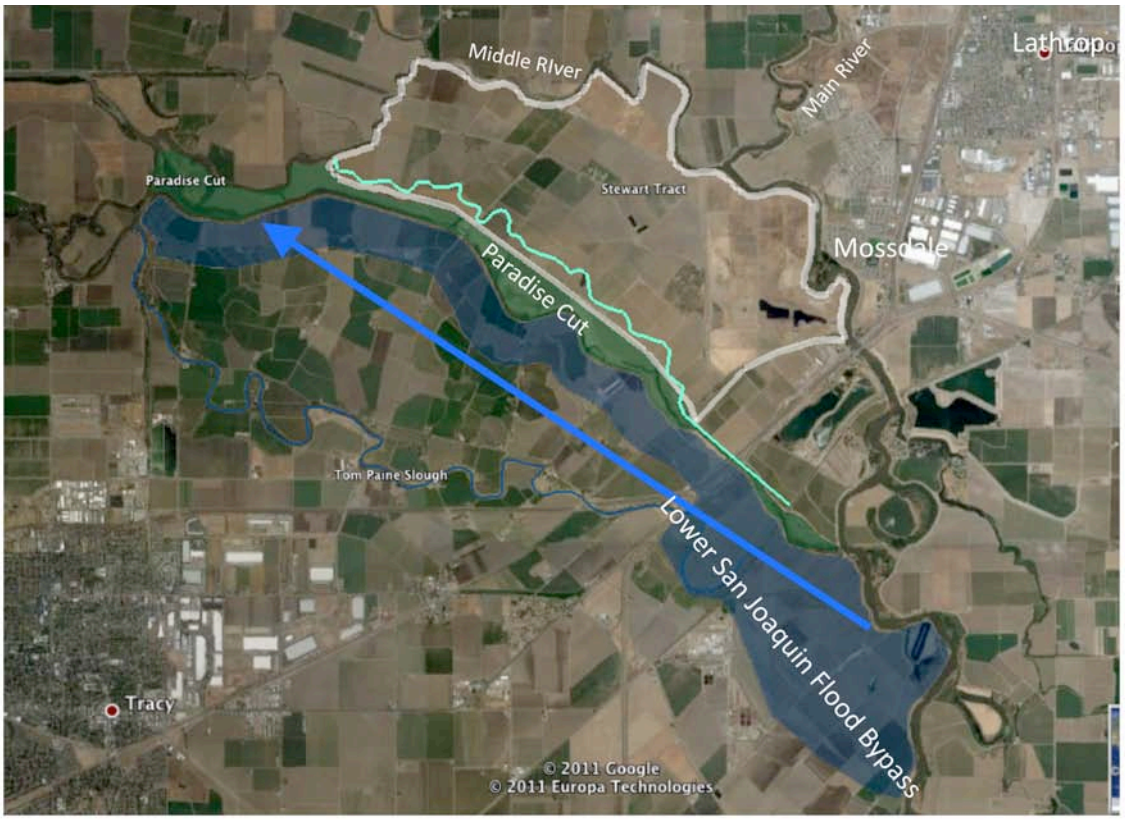
Flood Risk Reduction

The MBK Engineering modeling analysis of the proposed bypass showed a 1.8-foot reduction in flood stage at Mossdale during both the 50-year AEP and the modeled 1997 flood (slightly less than a 100-year AEP). For more detailed analyses on multiple scenarios, please contact American Rivers. The project design will minimize and mitigate any downstream impacts.

Funding Request and Cost Share

The SDLPCMA is requesting $5.0 million for planning and acquisition including $4.6 million for acquisition from willing sellers. The acquisition zone encompasses 49 parcels on approximately 4,800 acres. Project partners are also offering a $1.125 million cost-share in the proposal. This initial phase is necessary for land acquisition along this corridor to help conserve farmland and restore habitat for endangered species in the Delta. It will also guarantee that certain key parcels would remain non-urban and would be available to carry floodwaters in the future.

Figure 1. Expanding Paradise Cut (green) with a Lower San Joaquin Flood Bypass (blue) will route floodwaters away from urban areas in Lathrop and Stockton along the mainstem of the San Joaquin River. Blue arrow shows direction of flow and orientation of expanded bypass to the south. Light green shows widening of Paradise Cut using levee setbacks on River Islands.



Lower San Joaquin River Bypass Project Description

Introduction

> "A latter-day version of the bypass debate is now unfolding on the San Joaquin River, after the 1997 flood. In this most recent event, the San Joaquin River and several of its tributaries overwhelmed the channel capacity, inundating farmland and some communities. In contrast to the two major Sacramento Valley levee breads in 1997, in which flows did not exceed channel capacity but rather seeped in some way through the levees to cause blow-outs, the San Joaquin channels were not large enough for the size of the flows. Recognizing the futility of simply raising the levees, flood control experts will now evaluate the feasibility of removing levees in some locations and letting future flood flows pond onto adjacent lands. Further, consideration is being given to opening up some form of bypass through the south Delta to relieve pressure on the levees as the San Joaquin River flows into the Delta. *It is hoped these issues will be resolved and changes will be made before the next flood*."
>
> David Kennedy, 1998

Twelve years after David Kennedy, the longest serving director of the Department of Water Resources, wrote these words in the foreword to the second of edition of Battling the Inland Sea, we offer this application in the hopes that Department of Water Resources will see the wisdom in facilitating land acquisition necessary to finally plan and construct a new flood bypass on the Lower San Joaquin River. Despite these hopes, very little progress has been made to advance a flood bypass on the San Joaquin in the fourteen years since the great flood of 1997. This proposal is the first step toward the changes we need to make before the next flood.

Recent History of the Bypass

In recent years, the proposal for a new or expanded bypass has been resurrected by River Islands at Lathrop Development Project on Stewart Tract. Phase 2 of the River Islands development project entails expanding Paradise Cut to include a levee setback along virtually all of north side of Paradise Cut. Figure 2A provides an illustrative map of how the bypass may be expanded. Other promising configurations have been modeled and our illustrated in attachment 6. This proposal to further expand Paradise Cut to the south is partly the result of a legal settlement between River Islands, the Natural Resources Defense Council, the Natural Heritage Institute and the State Reclamation Board (now known as the Central Valley Flood Protection Board). As part of the settlement, River Islands placed into escrow $700,000 for immediate land acquisition, provided $75,000 for additional hydraulic modeling, and agreed to pay an additional $1.8 to $3 million to further the expanded bypass alternative or to fund long-term management. The settlement outlined specific criteria for bypass that are reflected in the project goal statements below.

Project Partners

The proposal to expand the bypass is now supported by a partnership that includes local agencies, business, and a University together with national environmental organizations that view this project as a national model for flood management in an era of climate change. The Lower San Joaquin River Bypass is a collaborative effort between the South Delta Water Agency, the River Islands Development Company, Reclamation District 2062, San Joaquin Resource Conservation District, American Rivers, the American Lands Conservancy, and the

Natural Resources Defense Council. The University of the Pacific has agreed to provide technical review to improve the planning and public outreach processes.

The project will be managed by the Southern Delta Levee Protection and Channel Maintenance Authority (SDLPCMA), which is comprised of South Delta Water Agency and Reclamation District 2062. American Rivers and NRDC will serve on the planning team and provide cost share dollars from the River Islands legal settlement to design the project to provide both public safety and ecological benefits. River Islands will provide additional hydraulic modeling in conjunction with MBK. The San Joaquin Resource Conservation District (RCD) will reach out to private landowners about the cost and benefits of various types of easements. The University of the Pacific will convene a technical review effort to make objective recommendations on how to improve the project. The American Lands Conservancy will negotiate the mechanics of acquiring property and easements.

Goals and Objectives

This grant application is for phase 1 of a larger project to create a flood bypass on the Lower San Joaquin River south of Paradise Cut.

The overall goals of the flood bypass project are to:

- Substantially reduce flood stage on the mainstem San Joaquin River between Mossdale and Stockton.
- Reduce the probability of catastrophic urban flooding and loss of life in the communities of Lathrop, Manteca, Stockton, and unincorporated San Joaquin County.
- Substantially increase flood conveyance capacity through a constrained reach of the San Joaquin River floodway.
- Provide floodplain and riparian habitat for a variety of sensitive species including riparian brush rabbit, giant garter snake, Sacramento splittail, and juvenile Chinook salmon.
- Preserve agricultural land and protect it from uncontrolled flooding.

The specific objectives of the project, as identified in the legal settlement between NRDC and River Islands, are to:

- Provide for at least a twenty-inch reduction in flood stage at Mossdale from the 100-year flood peak.
- Cause no significant increase in flood stage during the 50-year or 100-year flood at the confluence of Paradise Cut and Old River.
- Provide for establishment of riparian habitat buffers along both sides of the bypass of a biologically significant width, but no less than 100 feet (within the floodway);
- Support a significant net increase in riparian vegetation and floodplain habitat in the flood storage area;
- Have a reasonable prospect of public funding for purchase and construction of any physical modifications.

Project Location and Flood Control Function

The Lower San Joaquin River Flood Bypass (bypass) will substantially reduce flood risk for urban communities in northern San Joaquin County. The proposed bypass is located in San

Joaquin County upstream of Stockton (figure 3a). It lies immediately southwest of Paradise Cut on land lands upstream and downstream of the highway 5 crossing. The bypass will route flood waters away from densely developed communities in Manteca, Lathrop, and Stockton reducing the probability of catastrophically flooding thousands of families currently protected by substandard levees around Reclamation District 17 and downstream in central Stockton. These areas were very nearly inundated during the floods of 1997. The bypass will divert flood waters out of this highly constrained, urbanizing reach of the flood control system between Mossdale and Stockton and instead route waters into substantially larger channels that flow through a rural area of the Delta Primary zone where urban development is prohibited. (figure 3b)

Agricultural and Wildlife Benefits

This proposal entails acquiring a combination of agricultural, conservation, and flood easements to create an expanded bypass in the future. Acquiring easements on Pescadero Tract south of Paradise Cut will protect one of the last swaths of undeveloped agricultural land on the Delta's southern perimeter. The project design will aim to enhance and expand riparian habitat along Paradise Cut while promoting wildlife friendly agricultural uses on Pescadero Tract. Areas closer to Paradise Cut will be exposed to a greater frequency of flooding while agricultural areas outside of Paradise Cut would only be subject to controlled and planned overflow during the most extreme events. This will protect agriculture in the area from the inexorable pressure for urban development while providing habitat for a variety of sensitive species including Swainson's hawk, riparian brush rabbit, giant garter snake, western pond turtle, burrowing owl, and Sacramento splittail.

San Joaquin County agricultural operators have been demonstrating the concept of "working landscapes" for decades, attempting to preserve and enhance the biological/ecological values that compliment local agriculture, as this flood bypass would do. Agriculture benefits from increased habitat values that attract native pollinators, beneficial prey species, and a reduction in non-native invasive species. The parcels surrounding the project area are compatible with commercial agricultural production as most of them are agricultural parcels. Where non-agricultural uses are planned, across Paradise Cut at River Islands, there are buffers planned between the agricultural areas and other areas of planned residential development. Almost the entire site is in agricultural production and securing easements on these properties will help deter future non-agricultural development.

Modeling Analyses

MBK engineering performed modeling analysis for River Islands, NHI, and NRDC as part of the legal settlement. Theses analyses were also reviewed by the engineer of the Reclamation Board, Steve Bradley, and presented to the Reclamation Board as part of the final settlement of the lawsuit in 2007. The Modeling analyses, described further in attachment 6 indicate that a new bypass could lower flood stage at Mossdale during the 50 year annual exceedance (AEP) probability by 1.8 to 2.5 feet and by similar amounts for the 1997 flood, which is somewhat less then the projected 100 year AEP. River Islands retained MBK to work with staff scientists from NRDC and the Natural Heritage Institute to use the HEC RAS model to analyze a variety of scenarios to meet the dual goals of flood stage reduction and ecosystem restoration. All scenarios assume no changes to the three bridge crossings (Hwy 5 and two railroads) over Paradise Cut, because modeling showed that these structures are not controlling, but the more sophisticated modeling now underway in CVFMP may show that modifications of the crossings

(i.e. culverts) could substantially increase capacity and the benefits of the project. The model also showed that the additional weir would also lower flood stage on Old River between Main River and Middle River as well as downstream at Brandt Bridge.

The most promising scenarios entail widening the weir at the head of Paradise Cut from its existing 180 feet to a total of 900 feet and then routing the water down a new or expanded floodway. Multiple scenarios using this basic approach lowered 50 year flood stage at Mossdale by 1.8 feet or more. Figure 3c illustrates the alignment of one such alternative. One scenario that entails creating a new weir upstream and excavating a new flood way by 4-5 feet lowered 50-year flood stage at Mossdale by 2.5 feet. Acquistion of land along the upstream end of Paradise Cut to enable weir expansion or creation of a new weir is therefore a high priority for acquisition.

Model results indicate that scenarios that successfully lowered flood stage at Mossdale by 1.8 to 2.5 feet could increase peak flood stage in Grant Line canal by as much as four inches in the 50 year event and six to eight inches during the 97' modeled event. The project design would need to be refined to minimize and mitigate any downstream impacts. This could be achieved by acquiring overflow areas as well as fortifying downstream levees. It is also possible that current model results overstate the downstream increases in flood stage. For the purposes of the Central Valley Flood management plan, DWR's modeling consultants have performed more sophisticated analysis where they link the HEC RAS model developed by MBK for River Islands with the RMA model, which more accurately predicts hydrodynamic conditions in tidally dominated environments such as Grant Line canal.

Potential Impacts

The project design will be optimized to minimize and mitigate any downstream impacts, and the project proponents are committed to doing so. South Delta Water Agency, a key partner in this application, represents landowners throughout the region including downstream landowners who may experience slightly higher stages. SDLPCMA was formed to provide revenues from the River Islands project to bolster downstream levees that may experience slightly higher stage due to expansion of Paradise Cut. Ideally, the project design can be optimized to maximize transitory storage and minimize any increase in downstream stage. The purpose of this JPA will be expanded to include RD 17, acquire property interests, and implement an expanded flood bypass South of Paradise Cut.

Water Supply Benefits

The bypass would increase flexibility for changes in upstream reservoir management to better optimize the water supply and flood control purposes of four major upstream reservoirs. The bypass would open up the most significant flood conveyance bottleneck in the San Joaquin Valley and potentially the state of California – a bottleneck that has implications for both public safety and water supply. As David Kennedy points out in the excerpt above, the San Joaquin flood control channel was completely overwhelmed by the 1997 flood. Presently all floodwaters in the San Joaquin Valley must pass through a highly constrained reach of the mainstem San Joaquin River that is rapidly urbanizing and dissected by a maze of critical infrastructure including highway 5 and the transcontinental railroad. To reduce the probability of additional catastrophic floods, upstream reservoirs on the San Joaquin and its tributaries must be tightly

managed to ensure that they maintain enough flood reservation to capture infrequent but large floods. Aggressive management of these upstream reservoirs for flood control inevitably reduces their water supply yield potential. Without a bypass to expand conveyance on the lower San Joaquin River, climate change and the potential for larger floods on the San Joaquin, will further exacerbate this fundamental conflict between water supply and public safety.

Project Phasing

Due to its size and complexity, this project can and must be implemented in phases. This grant application is for the first phase of land acquisition along with public outreach, planning, and technical review to develop the optimum design for the bypass. Modeling analysis indicates that phased implementation of the project, starting with dredging and widening of Paradise Weir would provide incremental flood stage reduction benefits.

The project applicants have analyzed a variety of configurations for an expanded bypass, many of which are described in the detailed hydraulic analysis. More planning and outreach is necessary to optimize planning and design for flood risk reduction and ecological benefits, but it is clear that acquisition of land along the southern boundary of Paradise Cut is necessary to cost effectively expand flood conveyance capacity along the Lower San Joaquin River. As shown in figure 3g, the lands south and west of Paradise Cut are the last remaining corridor of undeveloped land. All other lands are either urbanized or entitled for future urban development.

Expanding the bypass and associated flood conveyance is obviously necessary and beneficial to lower flood risk for urban communities along the main stem San Joaquin River, but has been difficult to plan and advance due to the numbers of privately held parcels along the bypass. Due to private property concerns, state and federal flood planning engineers with responsibility for system wide planning have been reluctant to plan a new bypass on privately held property. Local reclamation districts that would benefit most from increased flood conveyance do not have the authority to plan projects outside their district that may benefit their district. This dynamic creates a dangerous impasse that impedes expansion of the flood management system to better protect public safety. This proposal aims to break this stalemate by starting the process to acquire property rights that are necessary to create a bypass in the future.

Widening the weir at the head of Paradise Cut would most likely be the first phase of implementation and fortunately the adjacent landowner in this reach has agreed to provide a willing seller letter. Widening the weir from 180 to 400 feet reduces flood stage by six inches at Mossdale and four inches at Brandt Bridge. Widening the weir too much without providing expanded downstream capacity could, however, result in higher water surface elevation in Paradise Cut and downstream without providing commiserate stage reduction benefits on the mainstem. In the long-run, therefore, efforts to widen the weir or decrease roughness value in Paradise Cut must be coupled with widening the bypass to attenuate peak flows and minimize downstream impacts.

Phase 1 – Acquisition

To cost effectively acquire the property rights necessary to plan and construct the flood bypass, we propose a $4.6 million dollar block grant to acquire various property rights along the corridor from willing sellers. The block grant would fund a variety of transactions including flood

easements, conservation easements, and fee simple interest to cost effectively acquire a corridor that provides flood management and wildlife benefits while still providing for continued agricultural and generating property tax revenue. We would cater the type of easement or acquisition to the preference of the landowner to ensure that all landowners are willing sellers, and we may use funds from the River Islands legal settlement to buy options on land outside of the target corridor, so that we are able to offer a land trade to landowners who don't want to sell or encumber there property with an easement. It is extremely unlikely that we would be able to acquire fee simple interest in a sufficiently large corridor with the $4.5 million dollar block grant, but we believe, $4.5 may be sufficient to acquire a combination of property interests sufficient to plan and build an expanded flood bypass.

If only phase 1 is funded, this project will result in conservation of farmland and habitat for endangered species along Paradise Cut, an ecologically important wildlife corridor. It would guarantee that certain key parcels would remain non-urban and would be available to carry floodwaters in the future. If urbanization were to occur in this area, the cost of the bypass would be significantly greater and would be more difficult to complete. Phase 1 alone would not reduce flood stages, but if phase 1 of the project is not funded it will only become more difficult to expand conveyance capacity through this reach in the future.

Project applicants have requested $5 million dollars to jump start this bypass and need all of this to meaningfully advance the project. Full planning, acquisition, permitting, and implementation of the project could ultimately cost tens of millions of dollars from state, local, and federal sources. If funded, project applicants will complete a conceptual plan and feasibility study with a cost estimate.

No Regrets Project

This acquisition project is a no-regrets project that is entirely consistent with several major planning efforts including the Central Valley Flood Management Plan, the Delta Vision strategic plan, the Lower San Joaquin River Feasibility Study, the San Joaquin River Restoration Program, the Delta Stewardship Council authorizing legislation and ongoing planning process, and the Bay Delta Conservation Plan. A bypass in this reach is specifically contemplated in most of these planning efforts.

The proposed project is the only way to expand conveyance capacity through the lower San Joaquin River, and eventually, the state of California will need to expand conveyance capacity. Existing flood conveyance capacity is clearly inadequate to convey the original design flow, let alone future anticipated flood events. Building bigger, stronger levees to protect urban communities in RD 17 and Stockton is necessary and underway, but not sufficient. Climate change will bring higher sea levels and bigger floods. The most feasible way to avoid catastrophic flood damage for the urbanizing communities of northern San Joaquin County is to expand flood conveyance through this reach of the San Joaquin River and thereby reduce the probability of extreme flood stage against levees protecting urban communities. There are no other potential flood conveyance corridors. All other land is already within City limits of Tracy, Lathrop, and Stockton and entitled for urban development (figure 3g). Expanding conveyance capacity will lower flood stage, complement necessary levee improvements, and reduce the consequences associated with any future levee failure.

Expanded conveyance capacity would also provide agricultural conservation, water supply, and habitat benefits. Increased capacity would eventually provide more flexibility in how upstream reservoirs are managed. This flexibility would allow reservoir operators to more effectively use the reservoirs to maximize water supply without subjecting downstream communities to increased flood risk. An expanded bypass corridor would provide habitat and migration corridors for terrestrial and aquatic species including juvenile steelhead, salmon and spawning splittail. Acquiring flood and conservation easements across agricultural lands in the Pescadero tract would slow the inexorable pressure for urban development and protect agricultural use of many parcels.

PROPOSED SCOPE OF WORK

Task 1: Project Management

The Southern Delta Levee Protection and Channel Maintenance Authority (SDLPCMA) will serve as the fiscal agent and will contract with the Department of Water Resources (DWR). SDLPCMA will subcontract with the other partners and private consultants to complete tasks two through six. They will subcontract to the San Joaquin Resource Conservation District (SJRCD) to oversee contract management, process invoices, and file quarterly and annual reports. SDLPCMA will amend their governing agreement to expand the purpose of their Joint Powers Authority to explicitly include the new bypass and to expand membership in the JPA to include Reclamation District 17 and other parties with an interest in the bypass such as San Joaquin County. SDLPCMA will also enter into a Memorandum Of Understanding (MOU) with Natural Resources Defense Council (NRDC) and American Rivers regarding how they will collectively work together to plan and implement the bypass including provisions for how NRDC and American Rivers will make settlement funds available as cost share dollars for planning, implementation, and maintenance of the bypass. Lastly, SDLPCMA will form a planning team that includes representatives from NRDC, American Rivers, the San Joaquin RCD and other as necessary to successfully complete task 3 below.

Deliverables: Subcontracts with partners, revised JPA prior to contract with Flood Corridor program, MOU between SDLPCMA, NRDC, and American Rivers; subcontracts with partners; monthly invoices; quarterly financial reports; annual progress reports.

Task 2: Public Outreach and Education

The San Joaquin Resource Conservation District will lead the public outreach effort and assist the American Land Conservancy (ALC) in communications with local property owners. The RCD will organize local meetings of landowners and decision makers to present technical information regarding costs and benefits of the project to further build local support from taxpayers. In coordination with ALC, The RCD will prepare simple fact sheets on various types of easements and organize individualized meetings with landowners and their families to explain the easement process and how a flood bypass would function to affect their property in the future. The RCD will also organize three public meetings to inform landowners and local residents about the costs and benefits of the project. Two of the meetings will include a presentation from at least one member of the technical peer review panel from task 4. To effectively perform their public outreach role and ensure that landowners concerns are addressed, staff of the RDC will actively participate on the project planning team referenced in task 3 below.

Deliverables: 1) three public meetings, 2) fact sheets on easement process, 3) landowner meetings and assistance, and 4) regular participation on the planning team.

Task 3: Planning Tasks

The project planning team, overseen by SDLPCMA, will complete several studies to guide acquisition, design, and long-term implementation of the project with significant cost share from the settlement fund. River Islands has invested $1.5 million in a HEC RAS hydraulic model and hydrology analyses developed by MBK Engineers (attachment 6) that were extensively reviewed

by the state Reclamation Board and the United States Army Corps of Engineers (USACE) who deemed that the model accurately portrayed flood flows. The project proponents will utilize this model to evaluate a broad range of potential scenarios for a bypass alignment between Paradise Cut and Old River and to optimize size and configuration of the bypass to meet the project goals. The team will actively share these analyses with flood planners from DWR and USACE.

The project team will retain a qualified engineering and planning consultant to develop a conceptual plan and feasibility analysis, including a cost estimate for promising alignments, with information generated from the modeling analyses and the public outreach process. A key task of the conceptual plan will be to identify the right mix of agricultural and habitat zones within the bypass area. The conceptual plan will also identify strategies for ensuring that the expanded bypass will provide high quality habitat for a variety of species including juvenile Chinook salmon. To properly inform the conceptual plan, the project team will contract with a qualified consultant(s) to map key infrastructure constraints, conduct biological and topographic surveys, and compile information regarding other opportunities and constraints.

The project team will also conduct economic analyses to provide information on how the benefits of the proposed project and on potential strategies for financing long-term implementation and maintenance. The economic benefit analysis will calculate the assessed value of existing structural improvements that will be protected by the project, the anticipated assessed value of expected future improvements on entitled, vacant land that will be protected by the project, the replacement value of any flood control facilities or structures protected by the project, the decrease in dollar value of expected average annual flood damage, and the extent to which the project will reduce taxpayer liability for repairing flood-damaged property.

A second economic and policy analysis will develop a strategic plan for implementing and financing this complex but necessary project. The strategic plan will provide recommendations on how costs could be minimized and distributed between local beneficiaries together with state and federal partners, how to expedite planning for financing by USACE, how to compensate any parties that may be negatively impacted by the project, how to manage the project over the long-term, and how to ensure a reliable revenue stream for long-term maintenance that is not reliant on the state general fund.

Deliverables: 1) Modeling analyses, 2) a minimum of 6 meetings with appropriate personnel from DWR and USACE flood planning staff to get input on modeling analyses, 3) Conceptual Plan and Feasibility Analysis with detailed evaluation of at least two bypass alignment alternatives, 4) infrastructure, biological, and topographic maps, 5) Economic and flood risk reduction analyses, and 6) Strategic plan for financing and implementation.

Task 4: Technical Peer Review

The University of the Pacific is a trusted local institution of higher education with both a college of engineering and natural resources, and with special expertise in the Delta. The University of the Pacific will organize two technical peer review workshops including two evening meetings open to the public coordinated in conjunction with the RDC under task 2 above. The budget for this task includes funding for the workshop organizers and stipends for reviewers who will be comprised of at least one faculty member from the University of the Pacific along with experts

from other institutions. The interdisciplinary review team will provide recommendations on how to best meet the flood stage reduction and ecological goals of the project as well as guidance on how to best proceed with acquisition without disrupting social and economic conditions of the local community.

Deliverables: 1) Two one-day peer review workshops including public session at each workshop, 2) recommendations for engineering, analysis, and socio-economic factors.

Task 5: Property Acquisition

This task consists of both real estate services and property acquisition. The American Land Conservancy (ALC) will serve as the organization responsible for property acquisitions, including fee simple and conservation easement interests. To these ends, ALC will develop an acquisition strategy for key parcels within the priority acquisition zone. This will include outreach, coordinated with the RCD, to select landowners. ALC will negotiate contracts with willing sellers and conduct due diligence toward property interest acquisitions. When possible, ALC will seek to acquire easements rather than fee interests, to minimize sale and management expenses. ALC will be expected to provide "willing-seller" letters to DWR, demonstrating landowner interest, before negotiating contracts. ALC will then arrange third-party appraisals (financed by the project and approved by the state), Phase 1 Surveys, title reports, coordinate legal negotiations and contracts, and other transactional due diligence, as needed. ALC will be compensated on an hourly basis. To avoid expenditures that do not lead to acquisitions, SDLCMA will closely supervise ALC staff and provide clear instructions on when to continue or cease negotiations with individual landowners.

The project applicants seek a $4.435 million block grant to allow project proponents to cost effectively acquire property rights from willing sellers necessary for the bypass within a 4,800 acres acquisition zone (figure 3d). It is premature to speculate on the cost of the property interest to be acquired, but project proponents expect that the grant request will be sufficient to obtain flood easements over somewhere between 400 and 2,000 acres depending on the nature of the easements and terms of the contract. Upon execution of any purchase agreement, project proponents would invoice DWR for funds, which would be placed in an escrow account until all documents necessary to complete the transaction were finalized. Project proponents will purchase flood easements over as much property as possible and will not acquire interest in any property unless that acquisition includes a flood easement or is necessary to trade for property with a flood easement. Project proponents will only purchase from willing sellers and will obtain a willing seller letter from property owners before commencing negotiations.

*Deliverable*s: 1) Property interest acquisition strategy memo; 2) landowner outreach meetings; 3) fee simple and conservation easement acquisition negotiations; 4) transactional due diligence reports; 5) close of acquisitions and recorded deeds in name of SDLCMA.

SCHEDULE

	FY 2011				FY 2012				FY 2013			
	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4	Qtr. 1	Qtr. 2	Qtr. 3	Qtr. 4
Project Management												
JPA Legal Work and MOU												
Reporting, contract management												
Public Outreach												
Outreach to landowners												
3 Public meetings												
Peer Review												
Coordinator												
Technical Review Panel												
Planning and Engineering												
Surveys and mapping contracts												
Economic and public safety benefit analysis												
Hydrologic and hydraulic modeling												
Coordinate with DWR and USACE												
Strategic plan												
Conceptual Plan and Feasibility Study												
Acquisition												
Appraisals, phase 1 surveys, title.												
Legal documents (easements)												
Hourly services												
Finalize transactions and record deeds												

ATTACHMENT 3 – PROJECT LOCATION/SITE/VICINITY MAP

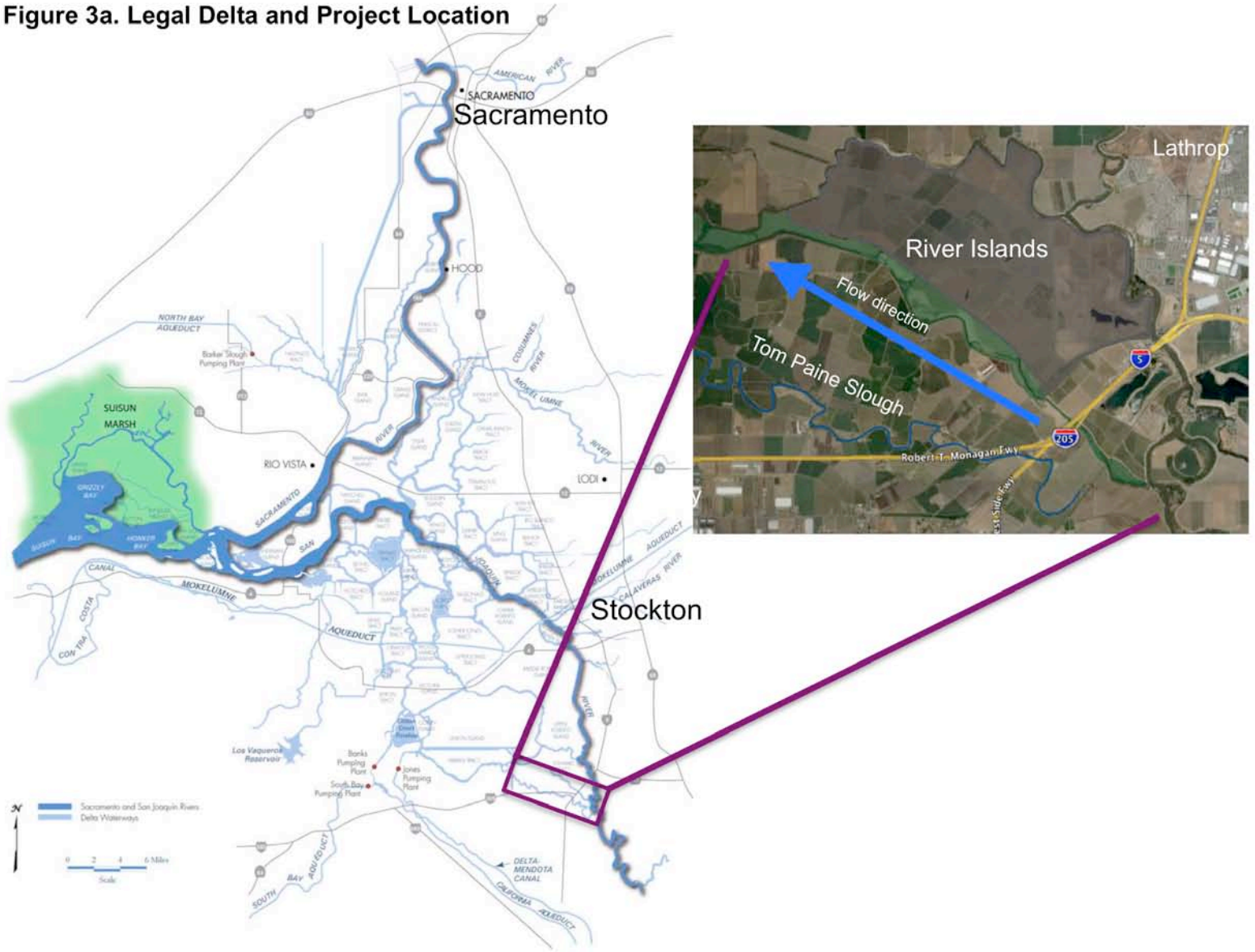
Provide a map and/or diagrams depicting the project location and site characteristics including the area and watershed encompassed by the project and disadvantaged communities within the project area (if applicable). Photographs showing problem areas proposed to be enhanced by the project should also be included.

Floodplain Map – Provide a map that shows the 100 year floodplain boundary together with the boundaries of the project. The method used for the floodplain determination (from the list provided in Section 3 of the guidelines) must be stated.

Project Drawings and Sketches – Provide drawings or sketches of project features in adequate detail to describe them.

Figure 3a: Project Location map
Figure 3b: Illustrates how Bypass will route flood flows away
Figure 3c: Expanded Bypass alternative illustrates one approach for expanding the bypass.
Figure 3d: Acquisition zone. Area in red shows parcels targeted for easement acquisition. Area in blue show portions of River Islands parcels that will be included in expanded bypass as part of River Islands Project.
Figure 3e: 100 year floodplain map as well as provisionally accredited zones
Figure 3f: Economically disadvantaged communities in the planning area.
-Reports A-G: Descriptive Documentation of economically disadvantaged communities.
Figure 3g: Map of urban and urbanizing land in the Delta.

Figure 3a. Legal Delta and Project Location



Basemap source: Delta Vision Strategic Plan

Figure 3b: Expanded Paradise Cut Bypass will route flood flows away from urban areas in Lathrop and Stockton along the main stem of the San Joaquin River. Blue arrow shows direction of flow and orientation of expanded bypass to the south. Black line shows widening of the bypass that will be performed as part of the River Islands project.

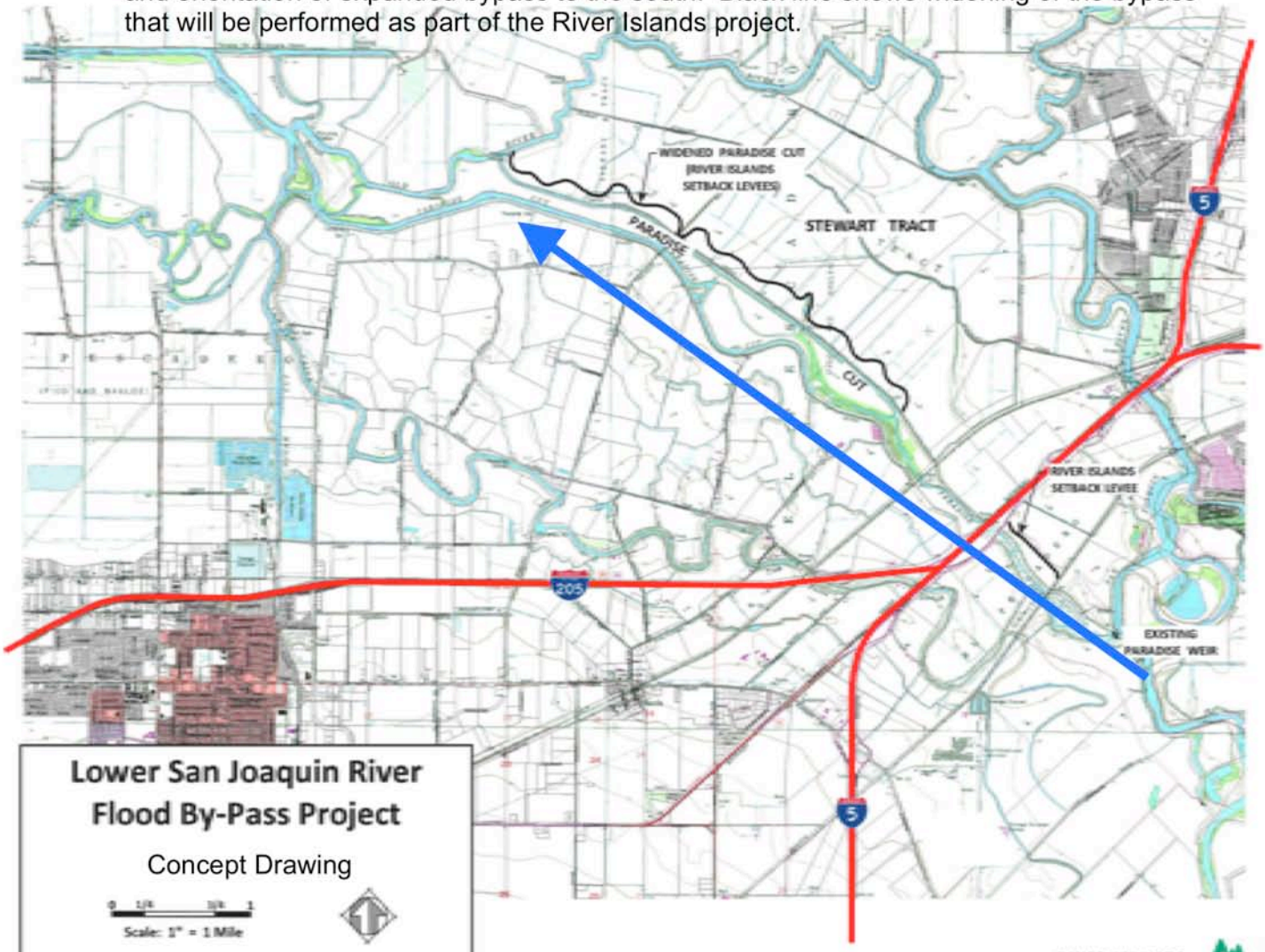


Figure 3c: Expanded bypass alternative illustrates one approach for expanding the bypass. Grey zone shows 1,000 foot strip to the south of existing bypass. Pink line shows boundary of new bypass assumed in hydraulic modeling analysis for alternative 3.

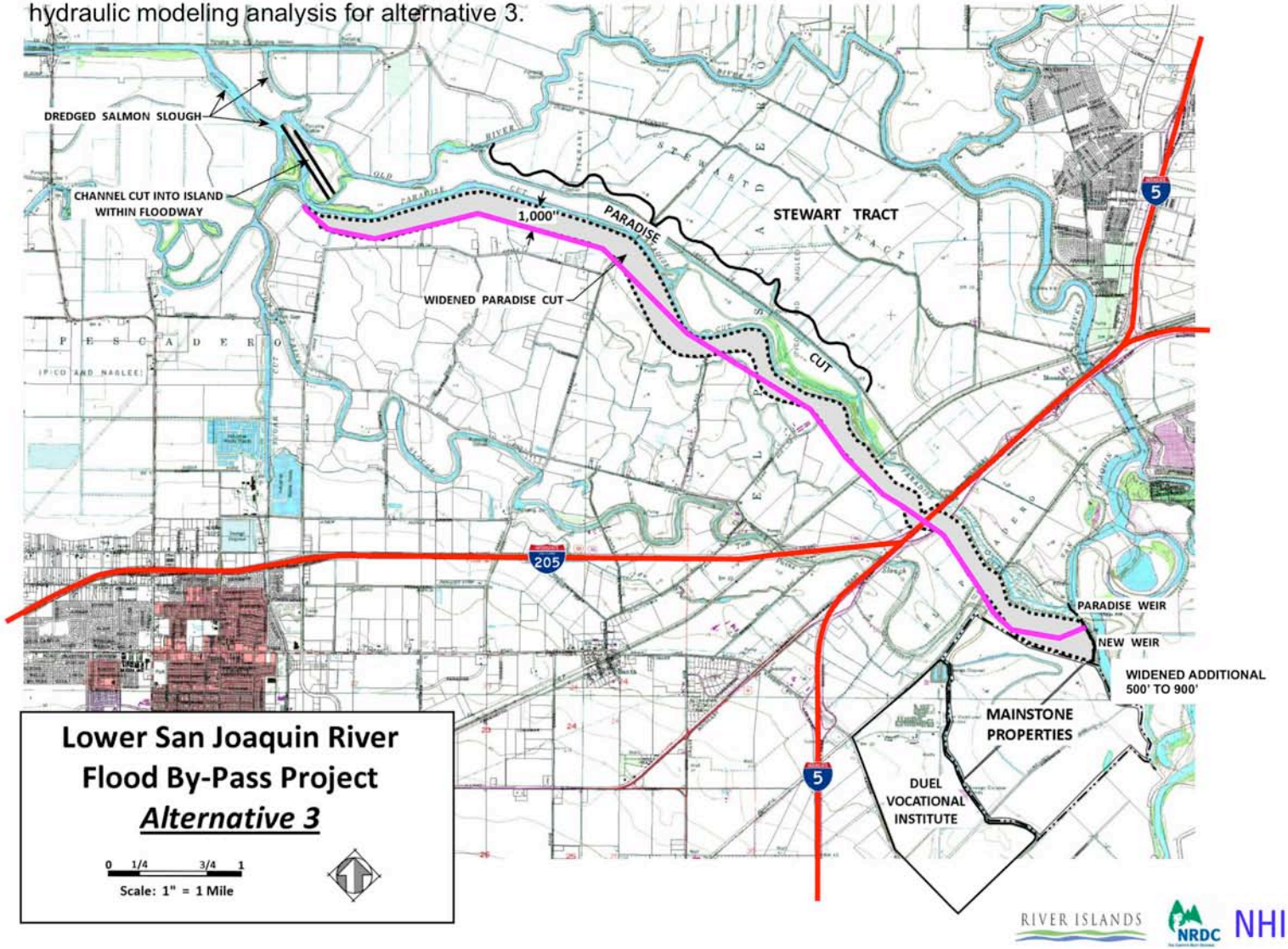


Figure 3d. Acquisition zone. Area in red shows parcels targeted for easement acquisition. Area in blue shows portions of River Islands parcels that will be included in expanded bypass as part of the River Islands project.

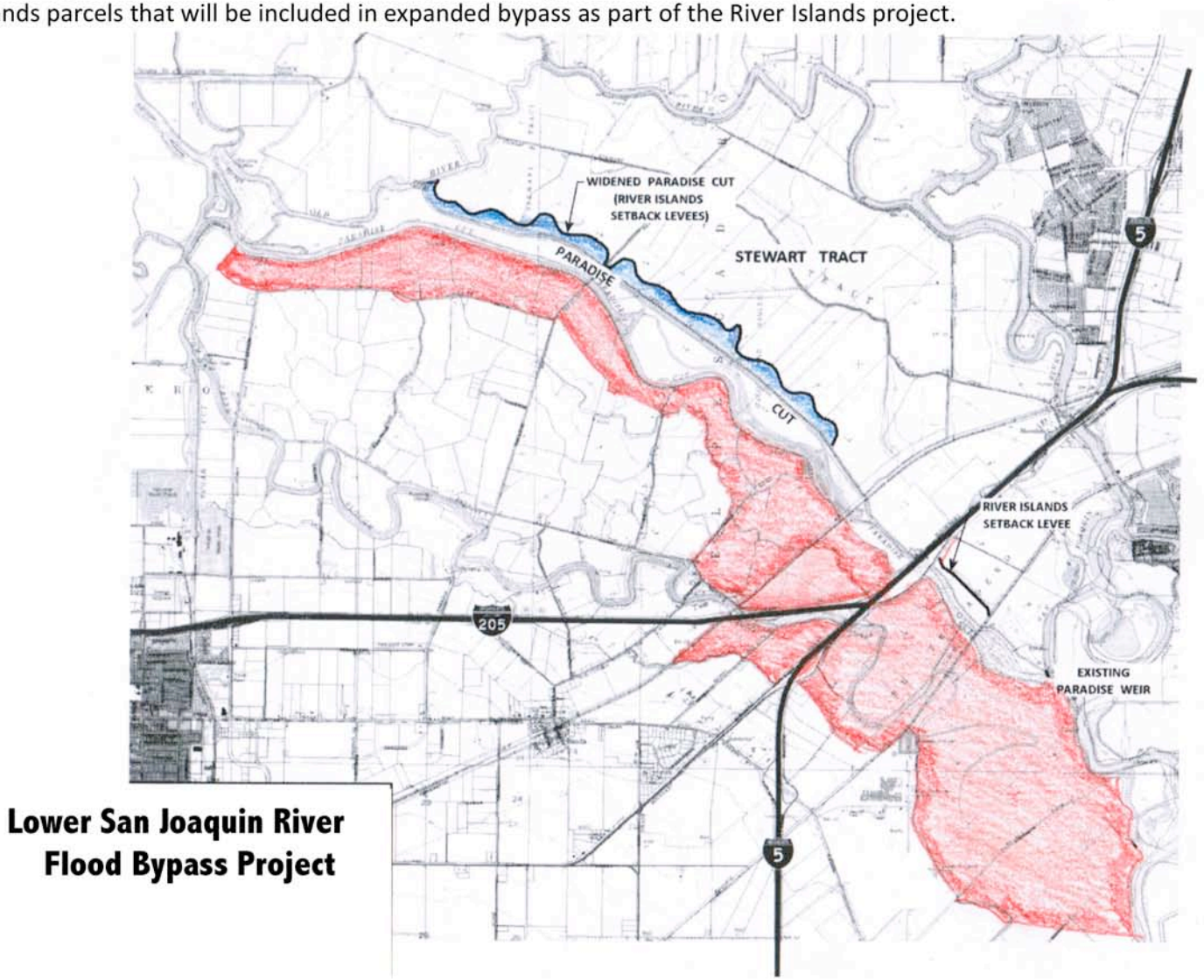
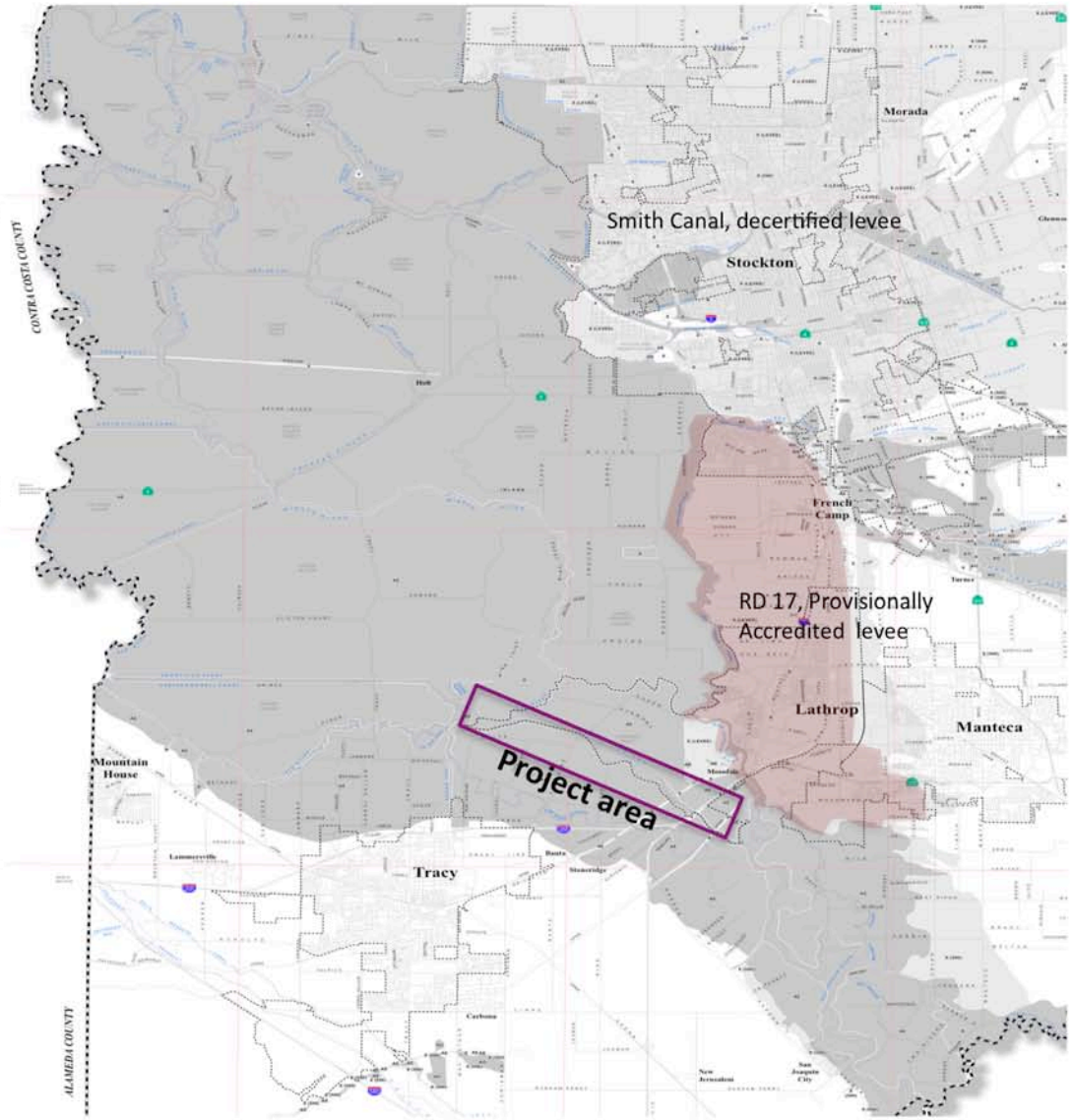


Figure 3e.
100-year Floodplain Map

Dark gray area is "Special Flood Hazard Area" which will be inundated by a 100-year flood.

Light red area protected by provisionally accredited levees (RD 17). Others levees in Stockton are at risk of being decertified.

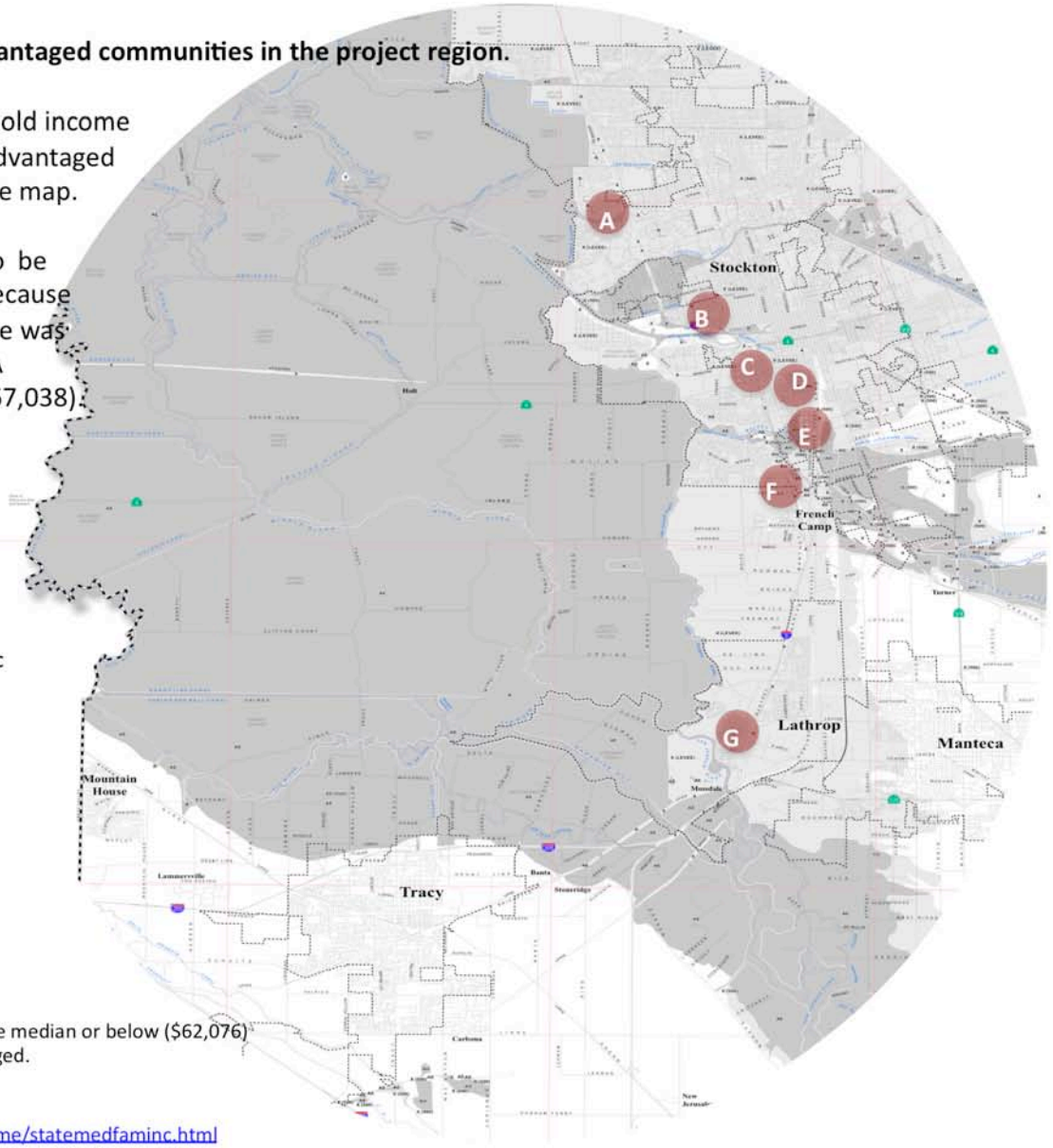


SFHA Base Map courtesy of San JoaquinCounty GIS

Figure 3f. Economically disadvantaged communities in the project region.

California state median household income is $77,596[a]. Economically disadvantaged households shown in red on the map.

The City of Stockton would also be Considered "disadvantaged" because 2009 median household income was $45,158[b], which was 67% of CA Median HH income of 2009 ($67,038).



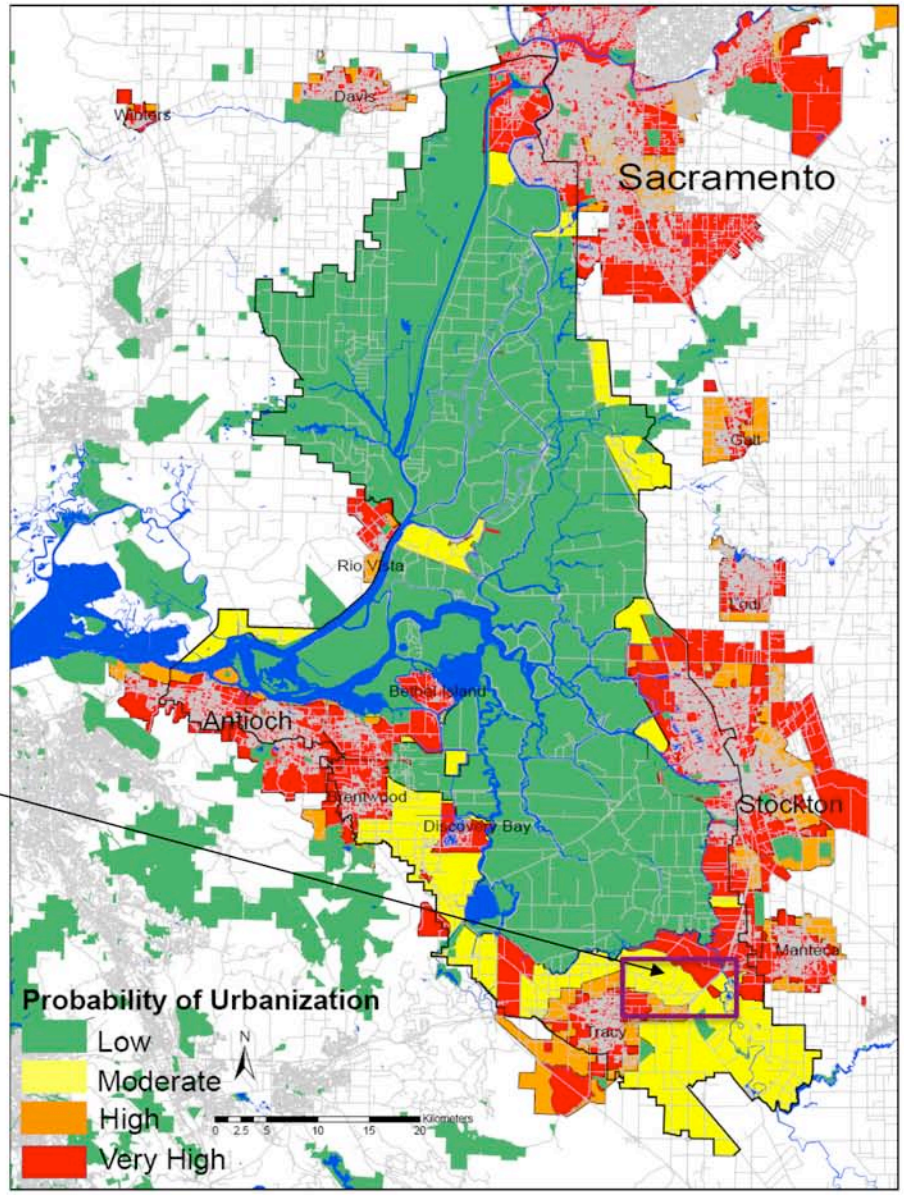
Legend

Community	Median Income[c]
A:	$41,805
B:	$45,686
C:	$44,898
D:	$30,485
E:	$44,469
F:	$32,558
G:	$50,634

a:Households earning incomes 80% of the median or below ($62,076) are considered economically disadvantaged.
b: http://factfinder.census.gov
Datasource: US Census 2010 data
http://www.census.gov/hhes/www/income/statemedfaminc.html
b: source: http://www.parkinfo.org/factfinder2011/grantee.html

Figure 3g: Urban and urbanizing lands in the legal Delta.

Map compiled by UC Berkeley Delta initiative. Red areas are permitted project or projects in the advanced planning stages. Orange are all areas within the city limits of incorporated areas. Green area lies in the primary zone where new development is tightly regulated. Yellow are all other areas.



Proposed bypass Location

BUDGET

TASKS	Grant Request	Cash Share	In-Kind Share	Total
Project Management				
JPA Legal Work and MOU			10,000	10,000
Reporting, contract management	35,000		20,000	55,000
Expenses	5,000			5,000
Public Outreach				
Outreach to landowners	70,000		20,000	90,000
3 Public meetings	15,000		2,500	17,500
Expenses, outreach materials, postage, printing	15,000			15,000
Peer Review				
Coordinator	25,000			25,000
Technical Review Panel	25,000			25,000
Expenses	5,000			5,000
Planning and Engineering				
Surveys and mapping contracts	50,000		4,000	54,000
Economic and public safety benefit analysis		30,000	2,500	32,500
Hydrologic and hydraulic modeling	40,000	40,000	6,000	86,000
Coordinate with DWR and USACE planning processes		25,000	20,000	45,000
Strategic plan for implementation, financing, and long-term maintenance		40,000	10,000	50,000
Conceptual Plan and Feasibility Study	100,000	50,000	5,000	155,000
Acquisition				
Appraisals, phase 1 surveys, title.	40,000	15,000		55,000
Legal documents (easements)	20,000			20,000
Hourly services	110,000		25,000	135,000
Other expenses	10,000			10,000
Purchase property rights	4,435,000	300,000		4,735,000
Long-term maintenance*				
		500,000		500,000
Indirect Cost Rate	0	0	0	0
TOTAL	**5,000,000**	**1,000,000**	**125,000**	**6,125,000**

*River Islands Legal Settlement Fund will generate $1.8 to $3 million that could be used for long-term maintenance. $800k becomes available when the EIS for phase 2 is finalized and an additional $1 to $2.2 million becomes available once all subdivision maps for phase 2 are fully vested. NRDC and River Islands agree to make a minimum of $500,000 available for long-term maintenance of conservation easements if this proposal is fully funded and the bypass is eventually constructed in a manner that achieves the proposal objectives identified in attachment 2. SDLPCMA also has significant funds that can be utilized for long-term maintenance.

ATTACHMENTS: available upon request.

Detailed hydraulic analysis
Acquisition Map and APNs
Four letters from willing property sellers
CEQA Documentation

FEMA Conditional Letter of Map Revision
Partner Qualifications
Final Proposal (PDF) Submitted to DWR in template.