

# El Dorado County Bridge Program



## PRESENTED BY:

County of El Dorado  
Community Development Agency  
Transportation Division

**Matthew Smeltzer, P.E.**  
Deputy Director of Engineering



# Bridge Program Presentation

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1. FHWA Highway Bridge Program Overview
2. Caltrans Bridge Inspections / Sufficiency Ratings
3. Bridge Lists – Statewide, County, CIP
4. Prioritized CIP Projects – Replacement, Rehab, Maint.
5. Bridge Project Photos
6. Links to More Information
7. Questions / Comments

# Highway Bridge Program (HBP) Overview

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- Safety program that provides federal-aid to local agencies to replace or rehabilitate deficient locally owned public highway bridges
- Program authorized by Federal Highway Administration (FHWA) & administered by State DOT's (CA – Caltrans)
- California annual share is about \$300 million
- Up to 100% reimbursement for reconstruction or replacement of bridges on public roads off federal aid highways
- 11.47% local match required for “on-system” bridges
- Eligible Project Costs - Preliminary Engineering, Right-of Way and Construction

# Bridge Inspections / Sufficiency Ratings

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- Each bridge is thoroughly inspected by Caltrans every two years and rated on 140 elements
- Given a Sufficiency Rating (SR) score of 0 to 100
- Rating is overall measure of the bridge condition and sufficiency to remain in service
- Used to determine eligibility for federal funds and prioritization

# HBP Funding Eligibility Criteria

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- $SR \leq 80$  is eligible for **Rehabilitation**
- $SR \leq 50$  is eligible for **Replacement**
- Must be rated either ***Structurally Deficient (SD)*** or ***Functionally Obsolete (FO)***.
- **SD:** Limitations of the structural condition of the bridge, such as weight limits or load capacity.
- **FO:** Built to standards that are not used today, such as inadequate lane widths, shoulder widths, or vertical clearances to serve current traffic demand.

# Caltrans Local Agency Bridge List



List of all bridge structures owned by local agencies in the State  
<http://www.dot.ca.gov/hq/structur/strmaint/local/localbrlist.pdf>

Caltrans		Structure Maintenance & Investigations		Local Agency Bridge List		SM&I		February, 2013								
El Dorado County																
District 03																
County of El Dorado																
Bridge Number	Feature Intersected	Facility Carried	Location	NBI Bridge	SD/FO	Suff Rating	Health Index	PCI	Year Built	ADT	Road Lanes	Width	Length	On/Off Federal Aid System	On/Off NHS Highway	Functional Class
25C0002	CARSON CREEK	LATROBE RD	1.3 MI S OF S.R. 50	NBI Bridge		97.0	100		1970	1800	2	11.6	12	On	Off	06 Rural Minor Arterial
25C0003	N FORK COSUMNES RIVER	BUCKS BAR RD	1.2 MI N MT AUKUM RD	NBI Bridge	FO	72.0	99.74		1940	4000	2	5.8	22	On	Off	07 Rural Mjr Collector
25C0004	SOUTH FK AMERICAN RIVER	MT MURPHY RD	0.1 MI E OF SR 49	NBI Bridge	SD	0.0	60.2	50	1915	280	1	3.2	149	Off	Off	09 Rural Local
25C0016	NORTH FK COSUMNES RIVER	MOUNT AUKUM ROAD	2.6 MI S PLEASANT VALY RD	NBI Bridge		66.9	78.96	75	1950	1786	2	8.5	78	On	Off	06 Rural Minor Arterial
25C0018	UPPER TRUCKEE RIVER	UPPER TRUCKEE RD	3.7 MI S/O SR 50	NBI Bridge		50.6	80.65	50	1942	1020	2	8.1	9	On	Off	07 Rural Mjr Collector
25C0019	ECHO CREEK	UPPER TRUCKEE RD	0.2 MI S OF U.S. 50	NBI Bridge	FO	70.0	96.6		1951	2390	2	7.9	8	On	Off	17 Urban Collector
25C0020	UPPER TRUCKEE RIVER	PORTAL DR	0.1 MI W OF S.R. 89	NBI Bridge		74.6	100		1955	660	2	8.4	19	Off	Off	09 Rural Local
25C0022	N FORK WEBER CREEK	SNOWS RD	1.7 MI S OF S.R. 50	NBI Bridge		95.6	66.67		1975	1640	2	0.0	10	Off	Off	08 Rural min Collector
25C0023	S FORK AMERICAN RIVER	Widwood Way	0.1MI EAST OF US 50	NBI Bridge		75.7	100		1997	30	1	4.2	38	Off	Off	09 Rural Local
25C0025	CAMP CREEK	HAPPY VALLEY RD	0.5 MI SE/O MT AUKUM RD	NBI Bridge	SD	16.0	53.23	25	1930	250	1	4.3	55	Off	Off	09 Rural Local
25C0027	MIDDLE FK COSUMNES RIVER	MT AUKUM RD	5.4 MI S PLEASANT VALY RD	NBI Bridge		69.9	99.62		1958	3695	2	9.8	100	On	Off	07 Rural Mjr Collector
25C0028	CEDAR CREEK	BRIDGEPORT SCH RD	1.2 MI S/E MT AUKUM RD	NBI Bridge		87.2	99.45		2005	485	2	7.1	24	Off	Off	09 Rural Local
25C0031	SPANISH CREEK	MT AUKUM RD	9.4 MI S PLEASANT VALY RD	NBI Bridge		96.1	100		1977	1794	2	12.2	13	On	Off	07 Rural Mjr Collector
25C0032	CLEAR CREEK	MT AUKUM RD	2 MI S/O PLEASANT VALY R	NBI Bridge		93.3	97.94		1957	2949	2	11.9	9	On	Off	07 Rural Mjr Collector
25C0033	S FK WEBER CR	NEWTOWN RD	0.7 MI W OF SNOWS RD	NBI Bridge	FO	74.8	99.14		1929	2758	2	8.2	9	On	Off	06 Rural Minor Arterial
25C0034	CLARK CREEK	LATROBE RD	400 YDS N. OF AMADOR CTY	NBI Bridge		92.4	100		1953	3395	2	15.5	9	On	Off	06 Rural Minor Arterial
25C0035	DEER CREEK	LATROBE RD	4.6 MI SOUTH U.S. 50	NBI Bridge		97.2	100		1987	1900	2	12.2	70	On	Off	06 Rural Minor Arterial
25C0036	NEW YORK CREEK	SALMON FALLS RD	1.2 MI N GREEN VALLEY RD	NBI Bridge		85.7	100		1975	2441	2	9.7	25	On	Off	06 Rural Minor Arterial
25C0037	SOUTH FK AMERICAN RIVER	SALMON FALLS RD	4.5 MI S PILOT HILL	NBI Bridge	FO	46.4	99.3	100	1953	2441	2	7.3	155	On	Off	06 Rural Minor Arterial

# California Local Agency Bridge Ratings



	Total Bridges	No. Rated Bridges	SR Rating 80 to 100	SR Rating 50 to 79	SR Rating 0 to 49	Average Sufficiency Rating
Statewide	14,225	13,317	8,054 (60%)	4,257 (32%)	1,006 (8%)	80.63
El Dorado County	79	77	22 (29%)	38 (49%)	17 (22%)	65.5

- El Dorado County has almost 3 times the State's % of bridges with SR < 50.
- Nearly 25% of the County's bridges are eligible for replacement.

# County Bridges GIS Map



<http://gem.edcgov.us/BridgesCIP/index.html>

## El Dorado County Bridge Inventory

■ County Bridge in Current CIP  
● County Bridge NOT in Current CIP

The map to the right shows all the bridges currently in the County's bridge inventory. Bridges indicated with a 'number' are included in the current Capital Improvement Program (CIP) for the County's Transportation Division. To see more info about a specific CIP bridge, click on either the bridge photo in the list below or the number on the map.

- 1

**ALDER DR / E.I.D. CANAL**
- 2

**BASSI RD / GRANITE CREEK**
- 3

**BAYNE RD / DUTCH CREEK**
- 4

**BLAIR RD / E.I.D. CANAL**

**ALDER DR / E.I.D. CANAL**

State Bridge No.	25C0069
County CIP No.	77123
Year Built	1930
Bridge Roadway Width	18.05 ft
Roadway Approach Width	17.06 ft
Load Limits	N/A
Permit Load Rating	00000

Click on photo for more information

Zoom to



# County Bridge Inventory / Prioritization

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- 55 of the 79 County bridges have SR Rating < 80
- 39 eligible for rehabilitation & 16 eligible for replacement
- Rated (weighted score) on the following criteria:
  1. Sufficiency Rating (SR) - max. 50 pts.
  2. Avg. Daily Traffic (ADT) - max. 30 pts.
  3. Maintenance – max. 10 pts.
  4. Traffic – max. 10 pts.

# 25 Bridges in 2013 CIP



**Adopted  
2013 Capital Improvement Program**

**EL DORADO COUNTY  
COMMUNITY DEVELOPMENT AGENCY  
TRANSPORTATION DIVISION**

## Index by Project Type

Project Number	Project Description	Page #
<b>Section 8.1 - West Slope Road and Bridge Projects</b>		
<u>Bridge</u>		
77123	Alder Drive at EID Canal - Bridge Replacement	2
77128	Bassi Road at Granite Creek - Bridge Replacement	10
77132	Bayne Road at Dutch Creek - Bridge Maintenance Project	12
77119	Blair Road at EID Canal - Bridge Replacement	14
77116	Bucks Bar Road at the North Fork Cosumnes River - Bridge Rehabilitation	16
77139	Clear Creek Road at Clear Creek (PM 0.25) - Bridge Replacement	26
77138	Clear Creek Road at Clear Creek (PM 1.82) - Bridge Replacement	28
77133	Cosumnes Mine Road at North Fork Cosumnes River - Bridge Maintenance	32
77127	Green Valley Road at Indian Creek - Bridge Replacement	54
77136	Green Valley Road at Mound Springs Creek - Bridge Replacement	56
77109	Green Valley Road at Tennessee Creek - Bridge Replacement	58
77114	Green Valley Road at Weber Creek - Bridge Replacement	60
77137	Greenstone Road at Slate Creek - Bridge Replacement	72
77135	Hanks Exchange at Squaw Hollow Creek - Bridge Replacement	74
77125	Hazel Valley Road at PG&E Canal - Bridge Replacement	76
77131	Ice House Road at Jones Fork Silver Creek - Bridge Maintenance Project	82
77126	Mosquito Road Bridge at South Fork American River	100
77129	Mount Murphy Road at South Fork American River - Bridge Replacement	106
77130	Mt. Aukum Road at North Fork Cosumnes River - Bridge Maintenance Project	108
77122	Newtown Road at South Fork of Weber Creek - Bridge Replacement	110
77134	Oak Hill Road at Squaw Hollow Creek - Bridge Replacement	116
77117	Rubicon Trail at Ellis Creek - Bridge Replacement	132
77124	Silver Fork Road at South Fork American River - Bridge Replacement	144
77115	Sly Park Road at Clear Creek Crossing - Bridge Replacement	150
77118	Wentworth Springs Road at Gerle Creek - Bridge Replacement	206

**20 Replacement, 1 Rehab, 4 Maintenance**

<http://www.edcgov.us/Government/DOT/CIP.aspx>  
(see Section VIII: West Slope Projects)

# Replacement Project Criteria

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- Bridge replacement projects prioritized based on structural integrity, daily use, annual cost to maintain, and accident history
- Meets federal criteria for replacement:
  - Structurally deficient and functionally obsolete
  - Low weight limit and fracture critical
  - High daily use and narrow width
- Lacks standard barriers and railings
- Restricted emergency vehicle access

# 2013 CIP Bridge Replacement Projects



State Bridge No.	Description	Year Built	Total Width (ft)	CIP No.	Sufficiency Rating (SR)	Average Daily Traffic (ADT)	SD / FO Status	Final Score (max 100)
25C0088	GREEN VALLEY RD / WEBER CREEK	1926	19.7	77114	17.0	4500	SD	85
25C0061	MOSQUITO RD / S. FORK AMERICAN RIVER	1939	8.9	77126	12.5	1200	SD	80
25C0004	MT MURPHY RD / S. FORK AMERICAN RIVER	1915	10.5	77129	0.0	300	SD	75
25C0071	BASSI RD / GRANITE CREEK	1949	15.1	77128	39.4	1100	SD	64
25C0079	CLEAR CREEK RD / CLEAR CREEK	1957	9.8	77139	18.6	320	SD	61
25C0047	SLY PARK RD / CLEAR CREEK	1936	8.9	77115	49.6	3300	FO	58
25C0053	HANKS EXCHANGE RD / SQUAW HOLLOW CREEK	1930	13.5	77135	40.7	2000	FO	53
25C0096	OAK HILL RD / SQUAW HOLLOW CREEK	1945	19.7	77134	46.0	2000	FO	53
25C0038	GREEN VALLEY RD / TENNESSEE CREEK	1930	19.0	77109	42.8	7500	FO	52
25C0041	GREEN VALLEY RD / MOUND SPRINGS CREEK	1935	8.9	77136	53.0	4000	FO	48
25C0087	GREENSTONE RD / SLATE CREEK	1925	19.4	77137	47.5	1000	FO	48
25C0040	GREEN VALLEY RD / INDIAN CREEK	1935	25.9	77127	64.8	4000	FO	45
25C0003	BUCKS BAR RD / N. FORK COSUMNES RIVER	1940	19.0	77116	72.0	5000	FO	45
25C0080	CLEAR CREEK RD / CLEAR CREEK	1940	14.1	77138	33.5	130	SD	45
25C0033	NEWTOWN RD / S. FORK WEBER CREEK	1929	26.9	77122	74.8	3000	FO	44
25C0069	ALDER DR / E.I.D. CANAL	1930	18.0	77123	53.2	1022	FO	39
25C0077	BLAIR RD / E.I.D. CANAL	1935	15.1	77119	56.7	950	FO	35
25C0092	HAZEL VALLEY RD / E.I.D. CANAL	1940	10.8	77125	67.0	25	FO	29

# 2013 CIP Bridge Rehabilitation & Maintenance Projects



State Bridge No.	Description	Year Built	Total Width (ft)	CIP No.	Sufficiency Rating (SR)	Average Daily Traffic (ADT)	SD / FO Status	Final Score (max 100)
25C0113	SILVER FORK RD / S. FORK AMERICAN RIVER (REHABILITATION)	1953	22.0	77124	64.0	100	SD	23
25C0016	MOUNT AUKUM RD / N. FORK COSUMNES RIVER (PREVENTIVE MAINTENANCE)	1960	27.9	77130	67.5	3000	N/A	49
25C0045	ICE HOUSE RD / JONES FORK SILVER CREEK (PREVENTIVE MAINTENANCE)	1961	27.9	77131	70.4	1500	N/A	39
25C0102	COSUMNES MINE RD / N. FORK COSUMNES RIVER (PREVENTIVE MAINTENANCE)	1965	22.3	77133	62.1	250	FO	33
25C0072	BAYNE RD / DUTCH CREEK (PREVENTIVE MAINTENANCE)	1927	16.7	77132	60.6	250	FO	26

# 2013 CIP Bridge Projects Delivery Pipeline



CIP No.	Project Description	Project Type	Total Cost (\$M)	Reimb Rate	FY13/14		FY14/15		FY15/16		FY16/17		FY17/18		FY18/19 - 22/23		
1	77115	Sly Park Road at Clear Creek Crossing	Replacement	5.38	88.53%	D	R			C		C					
2	77117	Rubicon Trail at Ellis Creek	Replacement	1.48	100%			C									
3	77130	Mt. Aukum Road at North Fork Cosumnes River	Maintenance	0.44	88.53%			C									
4	77133	Cosumnes Mine Road at North Fork Cosumnes River	Maintenance	0.27	88.53%	D	C			C							
5	77114	Green Valley Road at Weber Creek	Replacement	10.15	88.53%	D	R			C		C					
6	77123	Alder Drive at EID Canal	Replacement	2.93	100%	P	D	R		D	R	C					
7	77116	Bucks Bar Road at the North Fork Cosumnes River	Replacement	4.84	88.53%	P	D	R		D	R	C					
8	77119	Blair Road at EID Canal	Replacement	3.65	100%	P	D			D	R	C					
9	77124	Silver Fork Road at South Fork American River	Rehabilitation	4.56	100%	P	D			D	R	C					
10	77127	Green Valley Road at Indian Creek	Replacement	4.47	88.53%	P	D		P	D	R	C					
11	77131	Ice House Road at Jones Fork Silver Creek	Maintenance	0.76	88.53%	P	D			D		C					
12	77132	Bayne Road at Dutch Creek	Maintenance	0.16	88.53%	P	D			D		C					
13	77122	Newtown Road at South Fork of Weber Creek	Replacement	5.23	88.53%	P	D		P	D	R			C			
14	77125	Hazel Valley Road at PG&E Canal	Replacement	2.60	100%	P	D			D	R			C			
15	77128	Bassi Road at Granite Creek	Replacement	3.96	100%	P	D			D	R			R	C		
16	77129	Mount Murphy Road at South Fork American River	Replacement	8.46	100%	P	D		P	D				C			
17	77136	Green Valley Road at Mound Springs Creek	Replacement	4.47	88.53%	P			P	D			D	R	C		
18	77138	Clear Creek Road at Clear Creek (PM 1.82)	Replacement	4.56	100%	P			P	D			D	R	C		
19	77139	Clear Creek Road at Clear Creek (PM 0.25)	Replacement	4.56	100%	P			P	D			D	R	C		
20	77126	Mosquito Road Bridge at South Fork American River	Replacement	30.58	100%	P			P	D			D	R		C	
21	77134	Oak Hill Road at Squaw Hollow Creek	Replacement	3.93	100%	P	D		P	D	R		D	R		C	
22	77135	Hanks Exchange at Squaw Hollow Creek	Replacement	3.89	100%	P	D		P	D	R		D	R		C	
23	77137	Greenstone Road at Slate Creek	Replacement	3.48	100%	P	D		P	D	R		D	R		C	
24	77109	Green Valley Road at Tennessee Creek	Replacement	6.41	88.53%	<b>COMPLETED IN 2012</b>											
25	77118	Wentworth Springs Road at Gerle Creek	Replacement	1.55	100%	<b>COMPLETED IN 2013</b>											

P Planning/Environmental  
D Design  
R Right of Way  
C Construction



# CIP Bridge Project Websites

The screenshot shows the County of El Dorado California website. The header features a scenic landscape with the text "County of El Dorado California" and a search bar. Below the header is a navigation menu with links for Home, I Want To, Government, Doing Business, Living, and Visiting. The main content area is titled "Department of Transportation" and includes a breadcrumb trail: Home > Government > Department of Transportation. The primary heading is "El Dorado County Bridge Projects".

**El Dorado County Bridge Projects**

El Dorado County has 79 bridges that are maintained by the County. Routine maintenance is performed by the County's bridge crew as recommended per the Caltrans inspection reports. Each bridge is thoroughly inspected by the State Department of Transportation (Caltrans) every two years. The bridge is rated on 140 elements and given a Sufficiency Rating (SR) score in the range of 0 to 100. Bridges with an SR less than 80 are eligible for rehabilitation and bridges with an SR less than 50 are eligible for replacement.

The Federal Highway Administration (FHWA) has a safety program for bridge maintenance, rehabilitation and replacement. The County has applied for this funding and currently has 25 of the County's 79 bridges included in the Transportation Division's 2013 Capital Improvement Program (CIP). The list of bridge projects included in the current approved CIP are located under [Section II \(Indexes and Maps\)](#), Index by Project Type (page 9 of 31).

**New!** Posted 10/21/13: [Bridge Program Presentation](#)

Posted 8/20/13: [Interactive Map of All County Bridges](#)

Public workshops/information meetings have been held regarding the specific bridge projects listed below. For the public outreach materials and to subscribe to project updates or to submit comments or questions, click on the specific bridge link:

- [Alder Drive / Blair Road Bridges](#)
- [Bassi Road Bridge](#)
- [Bucks Bar Road Bridge](#)
- [Mosquito Bridge](#)
- [Mt Murphy Bridge](#)

**Comments or Questions?**

**Online Form:** [Comment Form](#)  
**Email:** [EDCBridges@edcgov.us](mailto:EDCBridges@edcgov.us)  
**Phone:** (530) 621-5900  
**Fax:** (530) 626-0387  
**Mail:** El Dorado County  
Transportation Division  
Attn: Bridge Project Coordinator  
2850 Fairlane Court  
Placerville, CA 95667

# County CIP Bridges 100% HBP Funded

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- 100% reimbursement rate applies to bridges that are “off-system” and not maintenance projects
- 88.53% reimbursement rate applies to “on-system” bridges and bridge maintenance projects
- 14 of the 21 replacement/rehab projects in 2013 CIP meet the 100% reimbursement criteria
- 7 bridges in the CIP are on-system and 4 are maintenance projects – these projects require 11.47% local match



# Typical Bridge Project Schedule & Process



Phase	Year 1	Yr 2	Yr 3	Yr 4	Yr 4	Yr 5	Yr 6	Yr 7
<b>Planning &amp; Environmental</b>	Project Prioritized Federal Funding Programmed (Highway Bridge Program)	Develop Alternatives, Public Meetings, and Preliminary Design	Prepare Environmental Document in Compliance with CEQA & NEPA					
<b>Design</b>				Develop Draft Plans and Cost Estimate	Develop Final Plans, Specifications and Cost Estimate (PS&E)			
<b>Right of Way</b>					Right of Way Acquisition			
<b>Construction</b>							Construct Project	

# Bridge Project Photos

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The following photos will illustrate:

- Maintenance Work
- Poor Conditions
- Completed Projects
- Aesthetic Design Examples

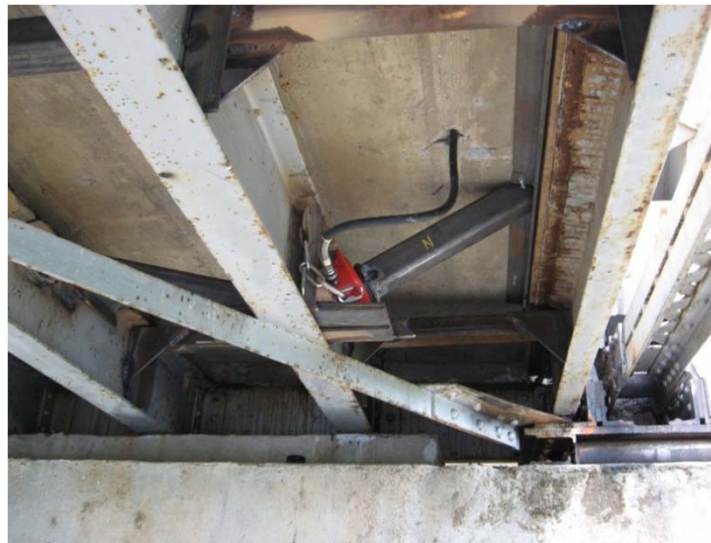
# Mosquito Rd Bridge Major Rehab, Fall 2010



# Mosquito Road Bridge Deck Repair



# Mount Murphy Bridge Deck Repair 2007



# Temporary Rail Repair at Green Valley Rd/Weber Creek



# EID Canal Bridges at Alder Dr / Blair Rd



Alder Drive (6/30/13)



Blair Road (6/30/13)

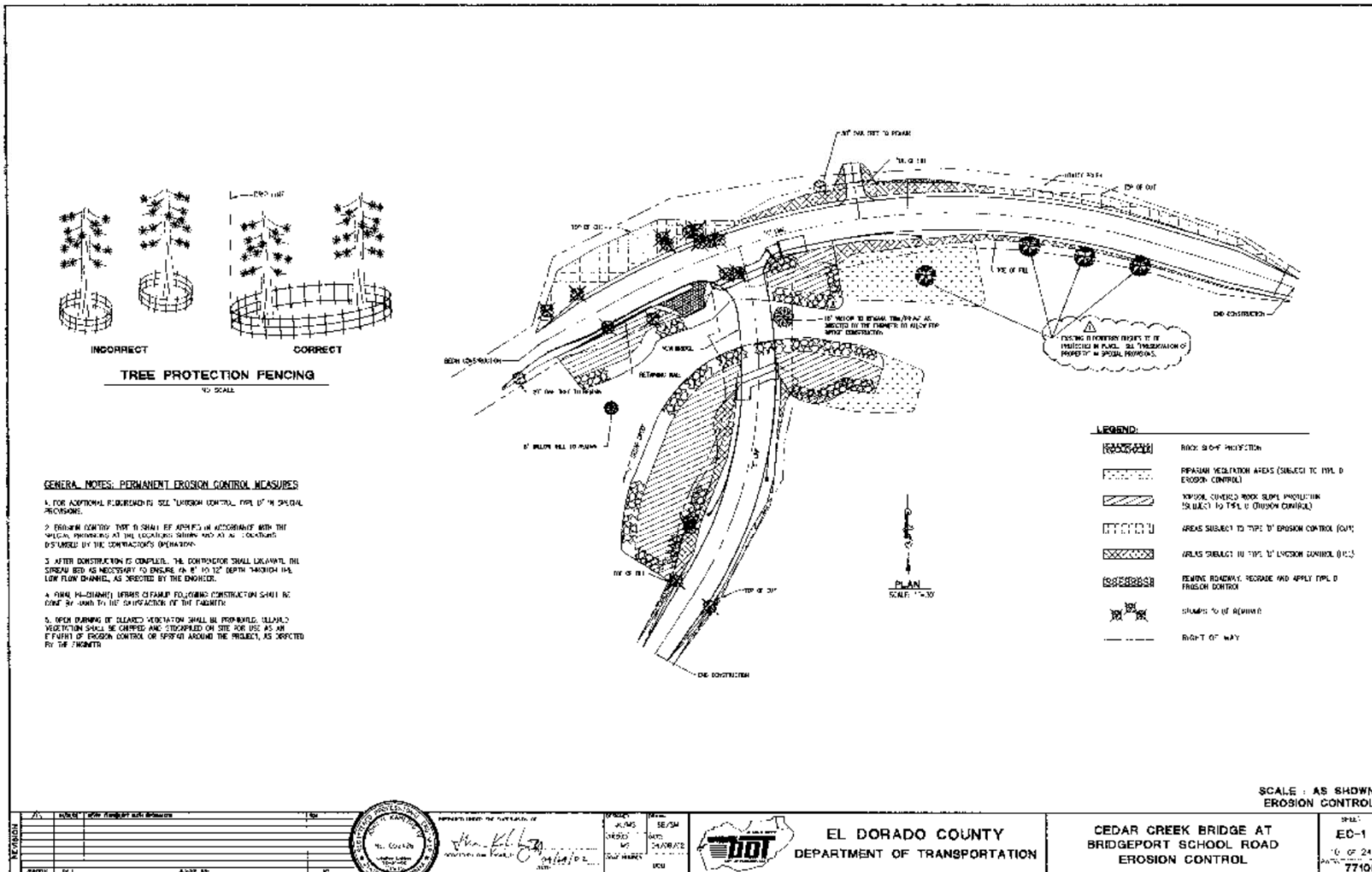


# Bridgeport School Rd Bridge Replacement 2003





# Bridgeport School Rd Erosion Control Plan 2002



# Preventive Maintenance Project – Completed 2012



## Five bridges on Ice House Road over South Fork Rubicon River



# Bridge Replacement Project – Completed 2012



## Green Valley Road at Tennessee Creek Bridge Replacement Project



# Bridge Designs - Old vs. New



**Chili Bar Bridge**



**Rainbow Bridge, Folsom**



**Lake Natoma Crossing, Folsom**

# Barrier & Guardrail Design Examples





## For More Information

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- **Visit the County Bridge Projects Website at:**  
<http://www.edcgov.us/BridgeProjects/>
- **2013 Capital Improvement Program**  
<http://www.edcgov.us/Government/DOT/CIP.aspx>
- **Caltrans Website**  
<http://www.dot.ca.gov/hq/LocalPrograms/hbrr99/hbrr99a.htm>
- **Local Agency Bridge Inventory List**  
<http://www.dot.ca.gov/hq/structur/strmaint/local/localbrlist.pdf>
- **Email: [edcbbridges@edcgov.us](mailto:edcbbridges@edcgov.us)**
- **Phone: (530) 621-5900 (Transportation Division)**