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# Project Report

## Roseville Road Bridge Replacement Project

Federal Project No. BRLS-5002(115)

PN: T15068500



Prepared For  
The City of Sacramento  
Prepared By

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December 2012



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## **Introduction/Executive Summary**

The City of Sacramento (City) proposes to replace the Roseville Road Bridge over Arcade Creek (Bridge No. 24C-0003). The existing bridge is structurally deficient due to longitudinal and transverse cracks in the deck and exposed footings, and functionally obsolete due to narrow shoulders and inadequate barrier rails. The project will also reconstruct the existing roadway on the eastern (450 feet) and western (400 feet) approaches to the bridge. The total length of the project is approximately 1,200 feet. Attachment A shows the project location.

The project proposes to replace the bridge on Roseville Road over Arcade Creek. The project includes widening the bridge to current standards, including shoulders and provisions for future addition of bicycle and pedestrian facilities. The preferred alternative would replace the existing structure in place using fewer spans/piers that are better aligned with the creek flows. Utility relocation of overhead lines and underground facilities will be required. The project will result in the loss of some mature trees.

The Roseville Road Bridge over Arcade Creek is located along a two-lane segment of Roseville Road that is paralleled on the west by the Union Pacific Railroad (UPRR) tracks and on the east by Haggin Oaks Golf Complex (a City-owned public resource). Roseville Road is a major arterial with an 85<sup>th</sup> percentile speed of 51 miles per hour (mph) and 60 mph design speed in the project vicinity. The proposed project is in the City of Sacramento, Sacramento County, and is approximately 0.5 mile north of Connie Drive on Roseville Road and 0.33 miles east of US Business 80. The existing structure, built in 1938, consists of a continuous concrete slab deck with six 3-column bents and a length of almost 210 feet.

The California Environmental Quality Act (CEQA) environmental document for this project is an Initial Study/Mitigated Negative Declaration (IS/MND). The National Environmental Protection Act (NEPA) environmental document for this project is Categorical Exempt. The City of Sacramento Community Development Department reviewed the proposed project and on the basis of the whole record before it, determined that the proposed project is an anticipated subsequent project identified and described in the Sacramento 2030 General Plan Master Environmental Impact Report (City of Sacramento 2009a), and is consistent with the land use designation and permissible densities and intensities of use for the project site as set forth in the Sacramento 2030 General Plan (City of Sacramento 2009b).

The project is included in the Sacramento Area Council of Governments (SACOG) 2007–2009 Metropolitan Transportation Improvement Program (MTIP), as part of the Area State Highway Bridge Replacement Program Lump Sum. This project is also included in the FY 2007/2008 Federal Transportation Improvement Program (FTIP), and ranks second in the City's 2008 Transportation Programming Guide for bridge replacement/rehabilitation.

The Highway Bridge Program (HBP), formerly the Highway Bridge Replacement and Rehabilitation Program, will provide 88.53 percent of the funding needed to complete the preliminary engineering (including environmental studies), right-of-way, and construction phases of the bridge replacement project under Federal Project No. BRLS-5002(115). The City will provide the remaining 11.47 percent of funding.

## **Project Background**

### **Project Purpose**

The overall purpose of the project is to replace the Roseville Road Bridge over Arcade Creek. The primary purpose is to replace the crossing with a new bridge that meets current

design standards. As stated, the existing bridge is structurally deficient and functionally obsolete, lacking roadside shoulders and adequate barrier rails. The secondary purposes of the project are to:

- Reduce the number of piers and align them to better match the creek alignment, in order to improve the hydraulics of Arcade Creek as it flows under the bridge and reduce future scour potential around bridge abutments and piers;
- Provide accommodations for bicycle and pedestrian traffic; and
- Reduce maintenance costs.

### **Project Need**

Caltrans conducted a bridge inspection of the Roseville Road Bridge on July 6, 2006, that revealed exposed pier footings due to creek scour, and longitudinal and transverse cracks in the bridge deck. The bridge was also found to have an insufficient width (two 12-foot lanes, no shoulders), and the existing non-standard timber railing does not meet crash test criteria. As a result, the bridge is considered structurally deficient and functionally obsolete. Based on these results, the City applied for and obtained HBP funding to design and construct a replacement bridge.

Arcade Creek flows under the existing bridge at a significant skew, entering the bridge at the northeast corner and exiting at the southwest corner. According to discussions with the Sacramento Area Flood Control Agency (SAFCA), this skew and encroachment of the north abutment embankment affect the hydraulic efficiency of the bridge, creating significant backwater and scour, and encroaching on the required freeboard at the bridge. The project is needed to address these structural and creek alignment issues.

### **Existing Conditions and Proposed Improvements**

Roseville Road is classified as a major arterial roadway and currently supports two traffic lanes, 0-foot to 3-foot shoulders, and no sidewalks. The roadway vertical alignment is level, and the horizontal alignment is tangent. The roadway has steep side slopes on both sides in the vicinity of the creek. There are no obstructions to drivers' line of sight through the existing bridge. Roseville Road is a major arterial with an 85<sup>th</sup> percentile speed of 51 mph and 60 mph design speed in the project vicinity.

Arcade Creek flows under Roseville Road Bridge and flowing east–west through the project area, crosses under the bridge at a skew angle of about 70° relative to the road alignment. Arcade Creek is about 16 miles long, is fed by many tributaries, and is the main creek in the Arcade Creek Watershed, a 38-square-mile area of land that covers sections of the cities of Sacramento and Citrus Heights. The existing bridge, built in 1938, consists of a continuous concrete slab deck with six 3-column bents and a length of almost 210 feet. The bridge elevation does not provide for a 3-foot freeboard, as is required by the Central Valley Flood Protection Board (CVFPB).

The Bridge Inspection Report, dated July 6, 2006, shows that there are both longitudinal and transverse cracks in the deck and the footings are exposed due to scour. In addition, the bridge has an insufficient width (due to lack of shoulders), and the existing timber railing does not meet current crash test criteria. As a result, the bridge is considered structurally deficient and functionally obsolete. Its sufficiency rating of 42 (on a scale of 1 to 100) qualified it for replacement under the HBP.

## **Consistency with Planning (General Plan and Bike and Pedestrian Master Plans) and Proposed Improvements**

The project proposes to replace the existing bridge to address the above-mentioned deficiencies and to provide opportunity, by minimizing rework, for a future system expansion consistent with the City's General Plan, Bike Master Plan, and Pedestrian Master Plan.

Although there is no current project or funding for expansion of Roseville Road, long-term planning calls for Roseville Road to be widened to four vehicle lanes. The proposed bridge would be widened on the golf course side under two possible scenarios: The existing bridge would be widened and the creek realigned, or a longer, separated viaduct would be constructed parallel to the bridge constructed with this project.

The Bike Master Plan and Pedestrian Master Plan call for Roseville Road to include bike lanes and sidewalks on both sides of the road. This project widens the shoulders to meet bike lane standards on both sides of the bridge in conformance with the Bike Master Plan. Sidewalks would be constructed only on the golf course side (see the Design Variances section below for more details regarding the addition of sidewalk on one side only).

The Bike Master Plan and Pedestrian Master Plan also call for a future Class I trail along Arcade Creek. The trail would cross beneath the proposed bridge on the north side of the creek using an 8-foot to 10-foot paved width located midway up the abutment fill slope, and constructed using 4-foot to 5-foot retaining walls on the abutment side and a rail on the creek side.

There are no current projects or funding for expansion of bike or pedestrian facilities on Roseville Road or along Arcade Creek. When Roseville Road is widened to four lanes in the future, bike lanes and a sidewalk on the golf course side would be added in conformance with the Bike and Pedestrian Master Plans. In the near term, should the City secure funding for an extension of the existing Class 1 trail from US Business 80 to I-80, the proposed roadway could be retrofitted to accommodate a trail extension in the following manner: A Class 1 trail could be constructed between the golf course and Roseville Road. The trail could merge onto Roseville Road at the start and end points of the bridge. Pending the bridge type selected (see discussion for Alternative 1 below), the bridge cross section using 3-foot voided slabs could be altered as follows: 6-foot southbound shoulder, 11-foot vehicle lanes, 4-foot northbound shoulder, 2-foot concrete barrier, and 8.5-foot Class I facility, or some variation thereof. 4-foot voided slabs would allow for the following wider section: 6-foot southbound shoulder, 11-foot vehicle lanes, 6-foot northbound shoulder, 2-foot concrete barrier, and 9 1/2-foot Class I facility, or some variation thereof.

## **Existing Conditions and Proposed Improvements**

There are two build alternatives for the proposed project, which are referred to as "Replace-in-Kind" and "Creek Realignment" and which are described in more detail below. Included in the scope of the two proposed project alternatives are:

- An increase of the bridge profile to pass a 200-year water surface with 3 feet of freeboard as required by the CVFPB, which corresponds to a water surface elevation of 54.1 (North American Vertical Datum [NAVD] 88);
- Reconstruction of the approach roadway to accommodate an increase in bridge profile elevation with a new crest vertical curve that provides a 60 mph design speed;
- Addition of 6-foot to 8-foot shoulders on each side to meet current design standards;
- Addition of sidewalk on the east side (adjacent to Haggin Oaks Golf Complex) for pedestrian safety;

- Addition of retaining walls to confine the roadway embankment to existing right-of-way where necessary to avoid impacts to adjacent property; and
- Reconstruction or relocation of overhead utilities and underground facilities impacted by roadway reconstruction.

### **Conceptual Plan and Cross Section**

See Attachments C and D for a typical section, conceptual plan, and profile of the proposed improvements for each of the alternatives.

### **Alternatives and Preliminary Analysis**

There are two build alternatives for the proposed project: Replace-in-Kind and Creek Realignment (see Attachment B for a comparative illustration of the two concepts). Both alternatives consist of replacing the bridge, as well as adding new shoulders on both sides of the road and sidewalk on the east side. Each alternative proposes a bridge profile higher than the existing, in order to satisfy the CVFPB's requirement of a 3-foot freeboard above the 200-year water surface elevation. The raised profile also results in the need for retaining walls on either side of the roadway to confine the fill slope within existing right-of-way for both build alternatives. The project will seek permission from UPRR to allow fill slopes in UPRR right-of-way to minimize the higher costs associated with retaining walls. However, retaining walls are the current design alternative until such time that a UPRR agreement is secured. The two alternatives, including differences between them, are described in more detail in the sections that follow.

#### **Alternative 1 - Replace-in-Kind (Preferred)**

As illustrated in Attachment C, the replace-in-kind alternative proposes to replace the existing slab bridge with a precast, pre-stressed concrete voided slab bridge with no modifications to the alignment of Arcade Creek. The new bridge would be higher and wider than the original structure to provide the required freeboard over Arcade Creek and to provide shoulders and sidewalks to address safety concerns and accommodate future bicycle and pedestrian traffic. The proposed bridge would be a four-span, 250-foot-long, and 2' – 4" deep structure on closed-end cantilever abutments using cast-in-drilled-hole or driven pile footings. This alternative proposes a longer bridge than does the creek realignment alternative, and it maintains Arcade Creek's current alignment and 70° skewed crossing. The abutments and piers would be skewed with respect to the roadway, making them better aligned with the creek flows and therefore less prone to scour than the existing bridge. Fewer bents (four for the proposed bridge compared to six for the existing bridge) would reduce the water surface impacts.

The minimum shoulder widths on the bridge are those shown on the Bridge General Plan Sheet 1 in Attachment C which illustrates a 7-foot – 7-inch southbound shoulder and a 6-foot northbound shoulder. The shoulder widths may vary depending upon the bridge type. As noted on Sheet L-1 of Attachment C, shoulders as wide as 8-foot are expected should Caltrans accept the 4' wide voided slab option as opposed to the 3' wide voided slab option illustrated on Bridge General Plan Sheet 1. Verbal concurrence for the 4' voided slab option has been given and 8' shoulders are the expected design that will move forward into PS&E.

## **Alternative 2 - Creek Realignment**

As illustrated in Attachment D, the creek realignment alternative proposes to realign Arcade Creek upstream of the bridge to improve hydraulic performance, reduce bridge length, and reduce foundation scour. Aligning the creek with the bridge would significantly reduce the length of the new bridge, which would allow for a clear-span bridge. With the realignment of the creek, the skew is reduced from 70° to 43°, thus resulting in a reduction in bridge length from 250 feet to 117 feet. The existing 70° skew between the roadway and Arcade Creek contributes to the footing scour observed during the bridge maintenance investigation and to the poor hydraulic performance of the creek beneath the bridge.

The proposed bridge under this alternative is a single-span precast pre-stressed concrete girder bridge on seat abutments, with a 6.5-foot structure depth. The foundation may include cast-in-drilled-hole piles, driven piles, or spread footing; the specific foundation type would be determined during final design.

The channel realignment proposed for this project extends from the westerly right-of-way to a point approximately 400 feet upstream. Creation of the new channel will require the removal and restoration of riparian habitat.

The channel realignment would also require a modification to Sacramento County's 36-inch sanitary sewer (the McClellan Interceptor), as illustrated in Attachment D. The existing gravity-fed system is exposed within the projects limits, crossing over the existing creek channel. During large storm events, the exposed pipe is submerged. The proposed realignment of the McClellan Interceptor would bypass a section of existing pipe, crossing the realigned creek channel at approximately 90°. This realignment will not stop the exposed pipe from being submerged during large storm events. The exposed pipe will be designed to withstand the lateral loads of the flowing channel, as well as any effects of buoyancy while submerged. As an option for reducing retaining wall costs, portions of the existing aboveground pipe may be buried with road fills, depending upon final design considerations and coordination with Sacramento County.

Alternative 2 construction permits have been rejected by the Department of Fish and Game and the U.S. Army Corps of Engineers. This alternative is no longer a viable alternative.

## **Alternatives Considered but Rejected**

Several alternatives for the proposed project were considered but were rejected:

### **Channel Bifurcation**

This alternative would create a bifurcated channel by excavating a new second creek channel east of the existing channel. This new second creek channel would reduce the hydraulic impacts of the skewed creek alignment, while keeping creek flows in both the existing channel and the new, realigned channel. The existing channel would still be affected by the placement of fill adjacent to the existing road bed to support the wider roadway sections. Only a minimal amount of the original channel would be preserved. Almost twice the area of riparian habitat would be disturbed by road bed support construction and new channel creation, with no additional area of restored habitat, compared to the proposed project alternative. Water flows needed to maintain riparian habitat would be split between the two channels. This flow pattern may not provide adequate water to support riparian vegetation along both channels. Further, there would be a minimal separation between the two channels in erodible soils, which could compromise

the stability of both channels. This alternative was eliminated from further consideration because of its additional effects on riparian habitat without equivalent restoration gains, and because of concerns about the stability of the bifurcated channel.

### **No Build**

The no build alternative takes no action. The existing bridge will continue to deteriorate, and it does not meet the project's purpose and need.

### **Phasing**

The bridge replacement project is a self-contained project, with its own utilization, and is not a phase of a larger project.

### **Construction Methods**

Two construction and traffic handling methods were considered for this project:

- **Method 1** (Road Closure) would consist of closing Roseville Road to all traffic and constructing the bridge in one phase during one construction season. Method 1 would require a detour for five months, because Roseville Road would be closed to traffic between Connie Drive and the Watt Avenue Regional Transit Metro Station entrance during demolition and replacement of the bridge. Vehicles traveling southbound (toward Sacramento) on Roseville Road would be redirected to westbound I-80 and westbound US Business 80 as alternate routes to destinations west of the project site. Westbound traffic diverting to US Business 80 to avoid the closure may enter the freeway at either the Watt Avenue, Madison Avenue, or Elkhorn Blvd interchanges. Eastbound traffic will divert to the Marconi Avenue or El Camino Avenue interchanges. Likewise, I-80 can expect increased traffic at the Winters Street and Marysville Boulevard interchanges. In addition to US Business 80, Auburn Boulevard and Marysville Boulevard are parallel routes.
- **Method 2** (Construct in Stages) would construct the bridge in two stages requiring two construction seasons. The first stage would remove half of the existing bridge, leaving the remaining half (one lane) open to traffic, and using one-lane traffic control with a temporary signal. The first half of the new bridge would be constructed with a cross section that includes the northbound lane, shoulder/bike lane, and sidewalk. Once the first stage is completed, traffic would be shifted to the completed half of the new bridge, again using one-lane traffic control, allowing the remainder of the existing structure to be removed and the remainder of the new structure to be constructed. Method 2 would close one lane of traffic on Roseville Road over an approximately 1.5-year period. Traffic management would include temporary traffic signals at the northern and southern limits of the project site to provide directional traffic control matched to commute patterns.

At the May 12, 2011 meeting with the City transportation and traffic managers, it was decided that it was in the best interest of the community to close the road during construction. The potential safety issues associated with one-lane traffic signal control, long-term traffic congestion from a one-lane bottleneck, and added construction costs attributed to Method 2 are more detrimental than the short-term traffic issues and lower cost attributed to Method 1.



Method 1 staging would be as follows:

<b>Method 1 (Road Closure) Construction Schedule</b>			
<b>Stage</b>	<b>Work Completed</b>	<b>Duration</b>	<b>Calendar</b>
1	Construct Check Dam and Creek Bypass; Bridge and Roadway Demo	1 month	Jun. 1 – Jun. 30
2	Rough Grading, Retaining Walls, Abutments	1 ½ months	Jul. 1 – Aug. 15
3	Erect Precast Slab; Form and Pour Deck	2 months	Aug. 16 – Oct. 15
4	Paving, Striping, MBGR; Remove Detour	½ month	Oct. 16 – Oct 31
5	Construction Complete; Project Closeout		Nov 1

### **Design Variances**

With the exception of constructing sidewalk on only one side of the bridge, the proposed improvements will adhere to the standards as set forth by the City of Sacramento, Caltrans, the Federal Highway Administration (FHWA), and the CVFPB.

City policy and standards call for sidewalks on both sides of roadways. In the case of Roseville Road, discussions among City staff concluded that sidewalks are not necessary on the UPRR side of the road because of the lack of need for access on the UPRR side. Consequently, the planning concept for this segment of Roseville Road is to have a sidewalk only on the golf course side of the road.

No other variations or exceptions to standards are required at this time.

### **Right-of-Way**

Existing Roseville Road is centered in the existing 60-foot-wide right-of-way corridor. On either side of the existing right-of-way are the UPRR corridor, supporting UPRR's transcontinental line; and Haggin Oaks Golf Complex, a public recreational resource. Temporary construction easements will be acquired from each of these adjoining parcels, with the stipulation that neither railroad operations nor active play areas of the golf complex will be impacted.

### **Risks Associated with the Alternatives**

#### **Alternative 1 - Replace-in-Kind**

There are minimal environmental, permitting, design, or schedule risks in pursuing this alternative. Funding through the HBP has been secured, and there are no unusual project features that would jeopardize funding or trigger extraordinary environmental considerations or mitigation.

Under this alternative, the high skew between Arcade Creek and the bridge will be retained. Scour and continual maintenance will be reduced compared to existing conditions, but should be expected to continue to be required.

## Alternative 2 - Creek Realignment

Channel realignment is atypical of HBP projects for bridge replacement. Several risks are associated with this alternative, including potential gas line conflicts, additional environmental mitigation, on-site restoration, ensuring the success of newly planted/restored areas, and requirements of regulatory agencies to allow permits to be issued. Alternative 2 has been rejected by the permitting agencies.

## No Build Alternative

Bridge deterioration as noted in the bridge maintenance reports will continue. Taking no action will eventually cause the roadway to be closed to traffic and will likely create adverse public opinion. Also, federal funding may not be available if the project is deferred.

## Environmental Review

The City of Sacramento Community Development Department is the lead agency for the California Environmental Quality Act (CEQA). The City of Sacramento reviewed the proposed project and determined that it is a subsequent project identified and described in the Sacramento 2030 General Plan Master Environmental Impact Report (Master EIR) (City of Sacramento 2009a), and is consistent with the land use designation and permissible densities and intensities of use for the project site as set forth in the Sacramento 2030 General Plan (City of Sacramento 2009b). An Initial Study (IS) was prepared for the project that assessed the impacts of the project on the environmental factors that are listed in the table below. The IS identified new or additional significant effects not analyzed in the Master EIR for three technical areas (checked in the table below): (1) biological resources, (2) cultural resources, and (3) transportation and circulation. In each case, mitigation was identified that would reduce effects to a less-than-significant level.

- |  |  |
|--|--|
| <input type="checkbox"/> Air Quality                           | <input type="checkbox"/> Noise and Vibration                       |
| <input checked="" type="checkbox"/> Biological Resources       | <input type="checkbox"/> Parks and Open Space                      |
| <input checked="" type="checkbox"/> Cultural Resources         | <input type="checkbox"/> Public Services                           |
| <input type="checkbox"/> Geology, Soils, and Mineral Resources | <input type="checkbox"/> Public Utilities                          |
| <input type="checkbox"/> Hazards and Hazardous Materials       | <input checked="" type="checkbox"/> Transportation and Circulation |
| <input type="checkbox"/> Hydrology and Water Quality           | <input type="checkbox"/> Urban Design and Visual Resources         |

A Draft Mitigated Negative Declaration (MND) was prepared and circulated for public review for a 30-day period from January 5, 2012, to February 6, 2012. Staff received six comment letters regarding the project during the public review period. The comments were generally related to agency jurisdictional requirements, project components and operation, and recommendations, and were not related to issues of the environmental document. Several comments requested clarification that Haggin Oaks Golf Complex is located within the larger Del Paso Regional Park.

One comment letter provided background on biological resources within the Del Paso Regional Park and also provided recommendations/suggestions for mitigation. The mitigation measures identified in the IS/Draft MND were included to reduce impacts to a less

than significant level. As described in the IS/Draft MND, the project is required to obtain several permits from regulatory agencies that will include permit conditions and protection measures. The suggestions presented were considered during coordination with the regulatory agencies and through the permit process; however, final permit conditions are at the discretion of the respective permitting agencies. Minor revisions to the IS were made to include the identification of Haggin Oaks Golf Complex within the larger Del Paso Regional Park and the location of natural habitat areas within the regional park. The new information added to the MND merely clarifies and makes insignificant modifications to the MND.

The comments raised did not change the environmental determination made in the IS/Draft MND.

On March 27, 2012, the Sacramento City Council adopted an MND and Mitigation Monitoring Program pursuant to CEQA for the Roseville Road Bridge Replacement Project (Resolution No. 2012-084). The complete Draft IS/MND can be viewed in PDF format on the disk located in Attachment F. The City Council approved Alternative 2 as the preferred design alternative for the bridge replacement (Resolution No. 2012-083).

Following these actions, the California Department of Fish and Game and the U.S. Army Corps of Engineers indicated they would not approve Alternative 2, but instead preferred the Replace-in-Kind alternative (Alternative 1). This Replace-in-Kind design was included and fully evaluated as Scenario B in the MND that City Council had previously adopted. The mitigation measures adopted in the Mitigation Monitoring Program, and identified in Resolution No. 2012-084, also apply to the Replace-in-Kind design now recommended by staff. No further action is required under the CEQA. The City Council plans to approve the Replace-in-Kind Alternative in December 2012.

Caltrans, under authority delegated by FHWA, is the lead agency for the National Environmental Protection Act (NEPA). Based on the type of project and the results of environmental technical studies, Caltrans has determined that the project qualifies for a NEPA Categorical Exclusion (CE) under 23 Code of Federal Regulations (CFR) 771. The NEPA CE for Alternative 2 (Creek Realignment Alternative) was approved on May 25, 2012. The NEPA CE will be revalidated for the Replace-in-Kind Alternative.

## Permits

The permits, reviews, and approvals listed below would be required for project construction.

Required Permits, Reviews, and Approvals		
Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 authorization for fill of waters of the United States	Initiated
California Department of Fish and Game	California Fish and Game Code Section 1602 streambed alteration agreement	Initiated
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401 water quality certification NPDES	Initiated
Central Valley Flood Protection Board	Encroachment permit	Initiated
Sacramento Area Flood Control Agency	Review/approval of hydraulic impacts	Initiated
Union Pacific Railroad	Temporary easement	Initiated
Haggin Oaks Golf Complex	Temporary easement	Initiated

## Cost Estimates

The HBP budget for construction is \$7.3 million. See Attachment G for a more detailed cost estimate. The table below summarizes the capital and support costs for the two build alternatives.

## COST ESTIMATE COMPARISON TABLE

Cost Estimate Comparison Between Replace In Kind and Creek Re-Alignment (Alternatives 1 & 2)		
Task	Creek Re-Align	Replace In Kind
Planning, Design, PS&E (Consultant Contract)	\$1,147,663	\$1,336,814
City Support (Planning, Design, PS&E)	\$310,000	\$258,000
Right-of-Way	\$10,000	\$40,000
Utility Relocation	\$197,500	\$0
Construction	\$2,389,000	\$4,059,000
Contingency	\$597,250	\$977,000
Construction Staking	\$91,250	\$80,000
Construction Inspection	\$141,250	\$440,000
Construction Management	\$91,250	\$125,000
Material Testing	\$37,500	\$75,000
<b>Total Project Cost</b>	<b>\$5,012,663</b>	<b>\$7,390,814</b>

## Funding

### Benchmarking

According to the most recent data in the multi-agency benchmarking study, the range of project delivery cost for comparable projects is 29 percent to 37 percent, for City of Sacramento projects. The City's expected project delivery cost for the Roseville Road Bridge Replacement Project is 53 percent.

### Funding

The total project budget, composed of the following revenue sources, is \$10,376,553:

- The Highway Bridge Program (HBP), formerly the Highway Bridge Replacement and Rehabilitation Program, has programmed \$9,510,000 to replace the existing structure, of which \$1,106,625 is currently loaded in the CIP.
- The City has programmed \$1,200,000 from the State and Federal Grant Match Project (T15007200). In addition, \$757,350 in local transportation funding is currently loaded in the CIP.

### Project Schedule

The major milestones for the proposed project are shown in the table below. See Attachment H for a complete critical path method schedule.

<b>Alternative 1 Milestone Schedule</b>			
<b>Replace In Kind Alternative</b>			
<b>Milestone</b>	<b>Time to Complete</b>	<b>Start Date</b>	<b>Completion Date</b>
Environmental Document Re-Approval CEQA and NEPA			Dec. 2012
Bridge Type Selection Report and Project Report Approval			Dec. 2012
Plans, Specifications, and Estimate (PS&E)*	6 mo.	Dec. 2012	May 2013
E76 for Right-of-Way*	1 1/2 mo.	Dec. 2012	Jun. 2013
Right-of-Way Certification (Including Utilities)	9 mo.	Dec. 2012	Aug. 2013
Permitting	8 mo.	Jan. 2013	Aug. 2013
E76 for Construction	2 mo.	Aug. 2013	Oct. 2013
Advertise and Award Contract	3 mo.	Oct. 2013	Dec. 2013
Construction	6 mo.	Jun. 2014	Nov. 2014

\*Extended right-of-way process for PG&E gas line design.

## **Public Outreach / Stakeholders**

Roseville Road is a transportation corridor primarily serving commute traffic. This bridge replacement project has not been controversial with respect to the general public or advocacy groups. No special public outreach is planned. Coordination with UPRR and Haggin Oaks Golf Complex has been initiated and will continue throughout project delivery and construction.

## **Coordination with Other Agencies**

Ongoing coordination will continue throughout the project with Sacramento County Department of Transportation and Caltrans with regards to the road closure. Coordination with adjacent property owners is required. Construction easements or temporary occupancy permits are needed from Haggin Oaks Golf Complex for the permanent creek realignment and habitat restoration.

For environmental and field topographic surveys, UPRR has granted right of entry and work has been completed. Preliminary consultation with a UPRR representative indicates that a construction easement can be granted for construction, provided that construction equipment does not encroach within 25 feet of the centerline of track.

For environmental and field topographic surveys, and for excavations related to cultural studies, project personnel coordinated with golf course management to determine schedule, access points, locations of disturbance, and restoration needs. Consultation with golf course management indicates that the project is acceptable, provided that the active play area is not disrupted, particularly on holidays and during tournaments, and provided that restoration is consistent with the environmental document.

Contact information for the agencies is as follows:

- Union Pacific Railroad: James Smith, 9451 Atkinson Street, Roseville, CA 95747, (916) 789-5152
- Haggin Oaks Golf Complex: Mike Woods, 3645 Fulton Avenue, Sacramento, CA 95821, (916) 871-2672

## **Coordination with Utilities**

Utility coordination will be required with SMUD, PG&E, and Integra Telecom. Utility A-Letters have been sent to all potential utility owners in the project vicinity. Results of the A-letters identified the following public utilities in the project vicinity:

- 6-foot gas: 10 feet east of centerline (PG&E).
- 16-foot gas: 11 feet west of centerline (PG&E).
- 12-foot gas: 13 feet west of centerline (PG&E).
- Overhead fiberoptic: 24 feet west of centerline (Integra Telecom).
- Overhead electric: 24 feet west of centerline; crossing Roseville Road south of bridge (SMUD).

Pending pothole investigations, there is a high probability that the existing 6-foot gas line on the east side of the road will conflict with the channel realignment and will require relocation.

The existing gas lines impacted by the bridge abutments will be relocated to the new bridge. PG&E estimates that it will take up to one year to design the relocated gas line. The remaining gas lines within the project limit will receive additional protection from the roadway embankment. Potholing is required in the location of the new bridge and creek crossing to verify the need for relocations.

Utility B-Letters have been sent to SMUD, and SMUD is currently preparing its final relocation design.

### Agreements

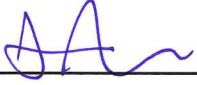
Agreements needed for this project are identified under **Permits**, above. Pending ongoing research with respect to superior rights, no other agreements have been identified.

### Reviews and Approvals

**Prepared by:** John Roccanova, David Evans and Associates, Inc., Phone: 677-2010

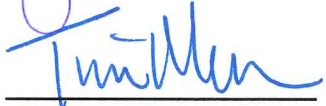
**Project Manager:** Matthew Johns, City Project Manager, Phone: 808-5760

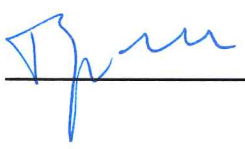
#### Approval Recommended by:

Matt Johns  Date 12-20-12  
(City Project Manager)

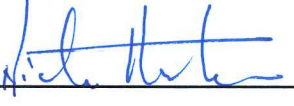
Hector Barron  Date 1-16-13  
(City Traffic Engineer)

Jon Blank  Date 1/4/13  
(Supervising Engineer)

Tim Mar  Date 1/14/13  
(Supervising Engineer)

Ryan Moore  Date 12/27/12  
(Supervising Engineer)

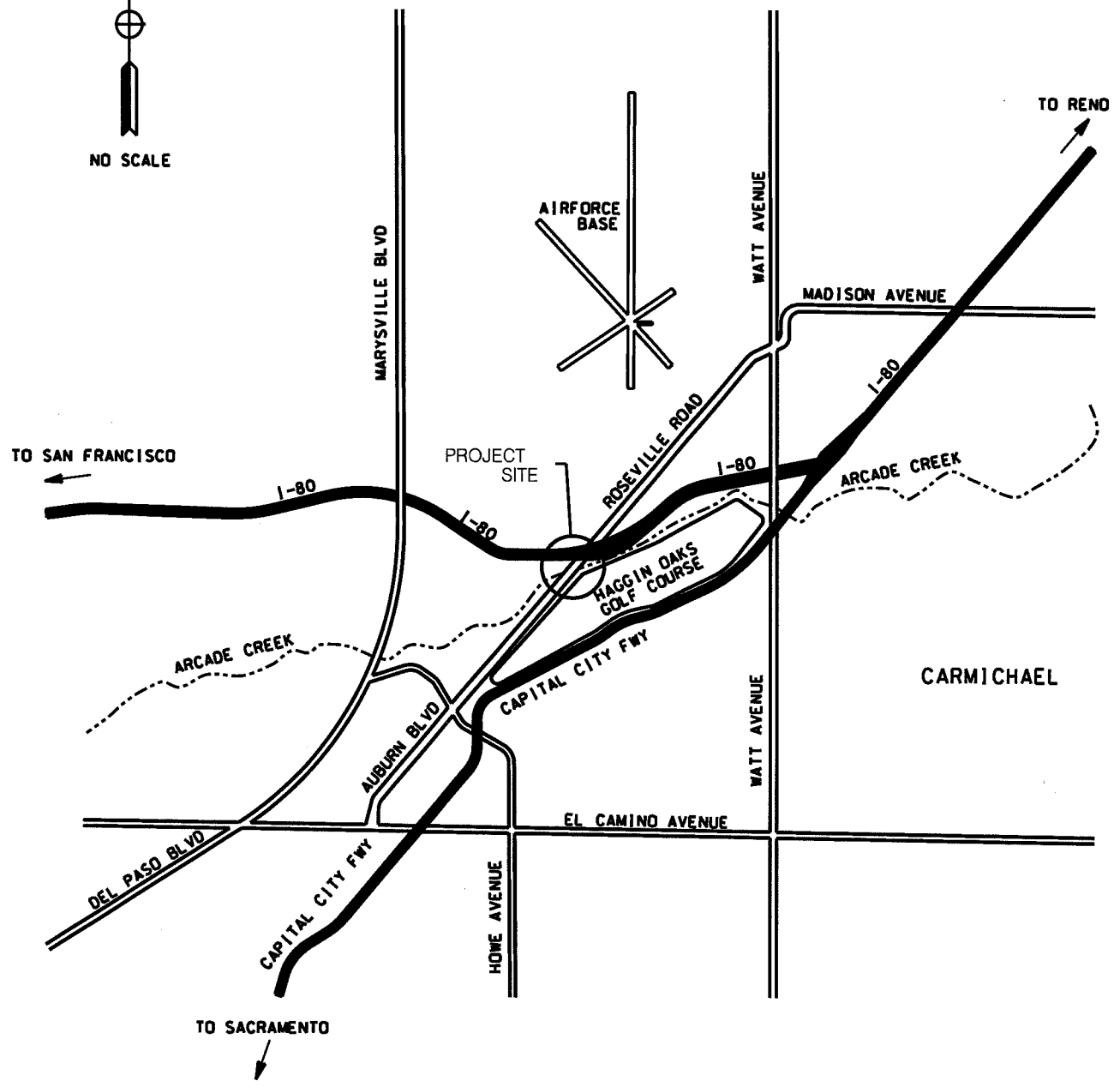
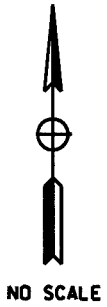
#### Approved By:

Nicholas Theocharides  Date 1/25/13  
(Engineering Services Manager)

## Attachments

- A. Vicinity Map
- B. Layout – Comparison Between Alternatives 1 and 2
- C. Alt 1 – Typical Section, Plan and Profile, Bridge Advanced Planning Study
- D. Alt 2 – Typical Section, Plan and Profile, Bridge Advanced Planning Study, and  
Alt 2 – McClellan Interceptor Plan and Profile
- E. Bridge Type Selection Report
- F. Environmental Document (CEQA and NEPA)
- G. Cost Estimates
- H. Critical Path Schedule
- I. Traffic Speed Study
- J. Funding Detail Table  
Budget Load  
PAAF
- K. Electronic Disk with Project Report





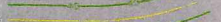


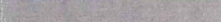


VICINITY MAP  
ROSEVILLE ROAD BRIDGE  
REPLACEMENT PROJECT



REPLACE-IN-KIND OPTION

LEGEND

-  PROPOSED BRIDGE
-  PROPOSED RETAINING WALL
-  PROPOSED CREEK REALIGNMENT
-  PROPOSED FILL SLOPE CATCH LINE
-  LIMITS OF PERMANENT GRADING
-  TEMPORARY CONSTRUCTION ACCESS

CREEK REALIGNMENT OPTION



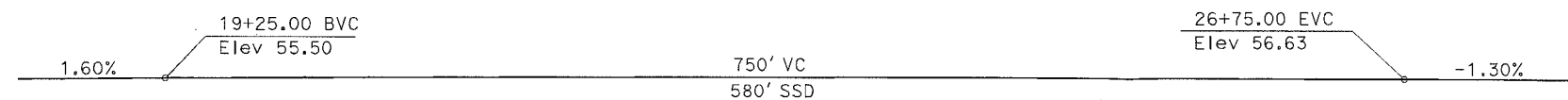
**ROSEVILLE ROAD  
BRIDGE REPLACEMENT  
PROJECT**

CITY OF  
SACRAMENTO  
DEPARTMENT OF  
TRANSPORTATION

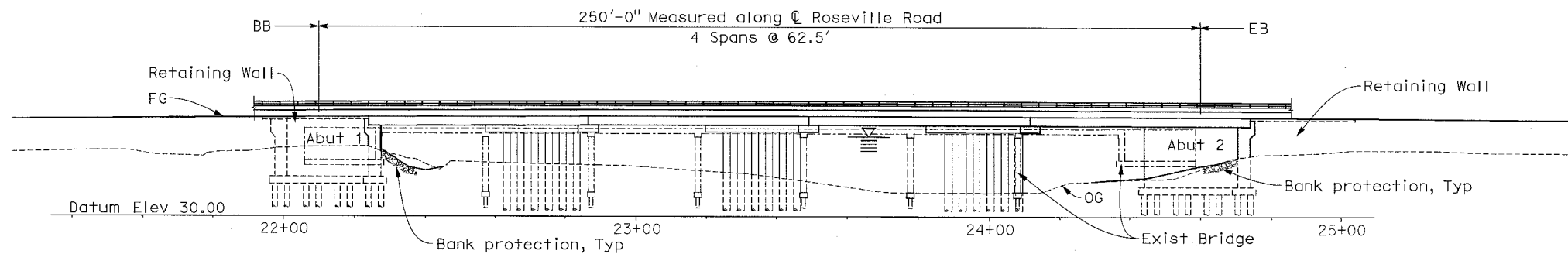


**DAVID EVANS  
AND ASSOCIATES INC.**  
1544 Eureka Road, Suite 200  
Roseville California 95661  
Phone: 916.781.9878

RELATIVE BORDER SCALE IS IN INCHES

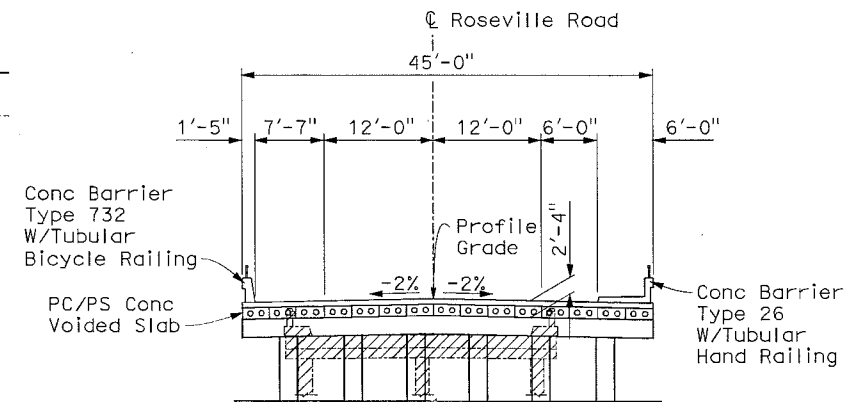


**PROFILE GRADE**  
No Scale

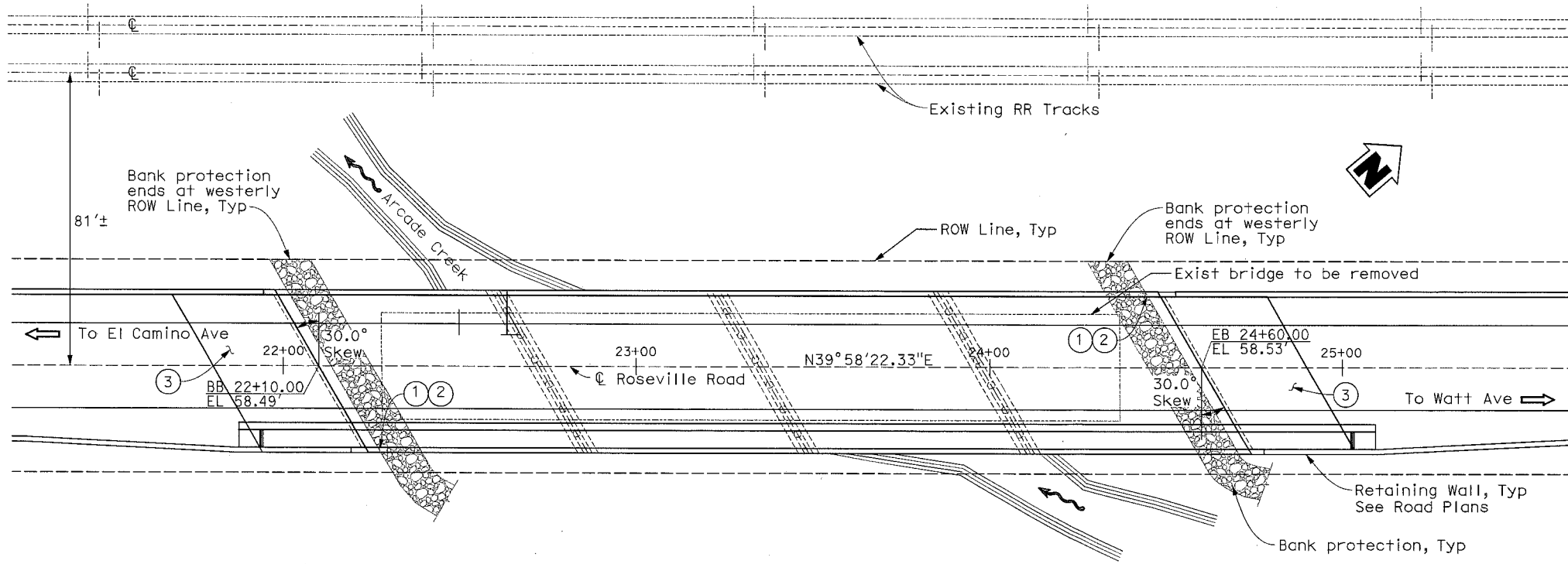


▽ 100Yr WSE (NAVD88)  
≡ 200Yr WSE 52.50'(NAVD88)

**ELEVATION**  
1" = 20'-0"



**TYPICAL SECTION**  
1" = 10'-0"



**PLAN**  
1" = 20'-0"

**Legend:**

- ① Paint "Roseville Road Bridge"
- ② Paint "Br. No. 24C0554"
- ③ Structure Approach Type N (30S)

**Vehicular Traffic**

- 1. \_\_\_ New alignment. No traffic at the site.
- 2. X Traffic will be detoured away from the site.
- 3. \_\_\_ Traffic will be carried on the structure. Stage construction will/will not be required.
- 4. \_\_\_ Traffic will pass under the structure on

DATES STIMES \$USERNAME: \$FILELS

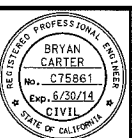
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NO.	DESCRIPTION	DATE	BY		

**CITY OF SACRAMENTO  
DEPARTMENT OF TRANSPORTATION**

DESIGNED BY: B. CARTER  
R.C.E. C75861 DATE JUN 2012

CHECKED BY: D. SUN  
R.C.E. C40064 DATE JUN 2012

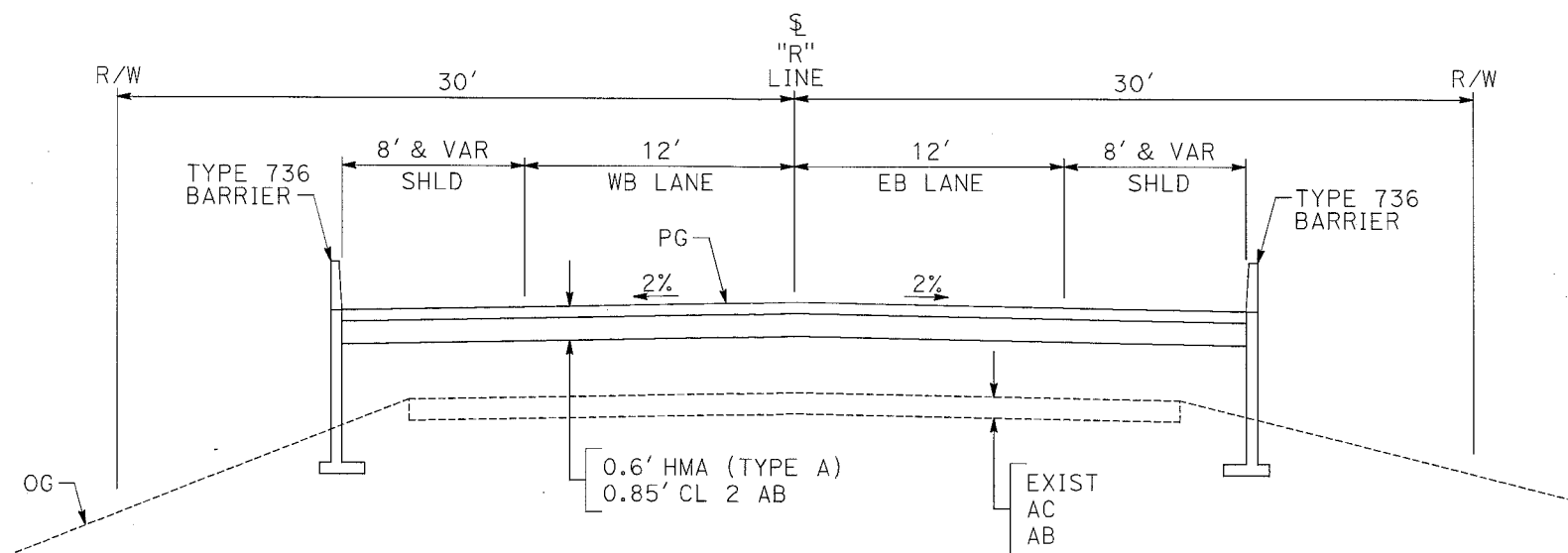
DRAWN BY: L. ANDERSEN  
DATE JUN 2012



**REPLACEMENT PROJECT FOR  
ROSEVILLE ROAD BRIDGE (Br. No. 24C0554)  
BRIDGE REPLACEMENT (PC/PS CONC. VOIDED SLAB)  
GENERAL PLAN**

PN: T15068500 SHEET 1 OF 1

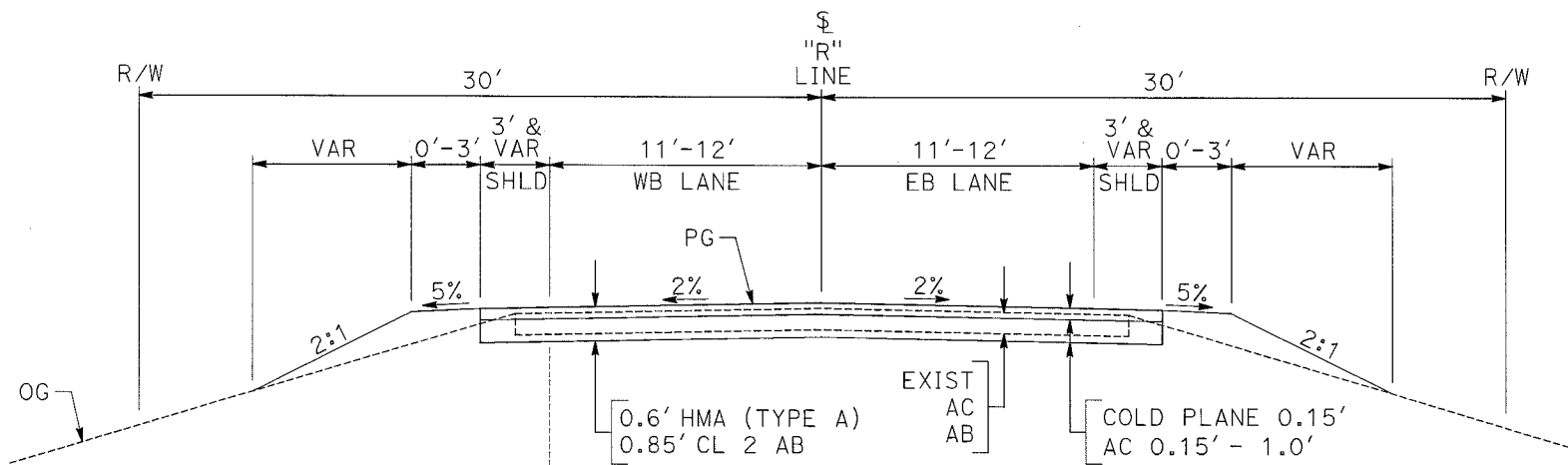
RELATIVE BORDER SCALE IS IN INCHES



**ROSEVILLE ROAD**

"R" LINE

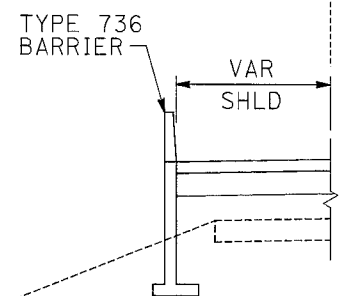
STA 19+50.00 TO STA 28+00.00



**ROSEVILLE ROAD**

"R" LINE

STA 17+25.00 TO STA 19+50.00  
STA 28+00.00 TO STA 28+75.00



STA 18+00.00 TO  
STA 19+50.00

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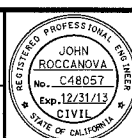
REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK	ELEV.	
DESCRIPTION:		

FIELD BOOK	
SCALE	
HORIZ.	
VERT.	

**CITY OF SACRAMENTO**  
DEPARTMENT OF TRANSPORTATION

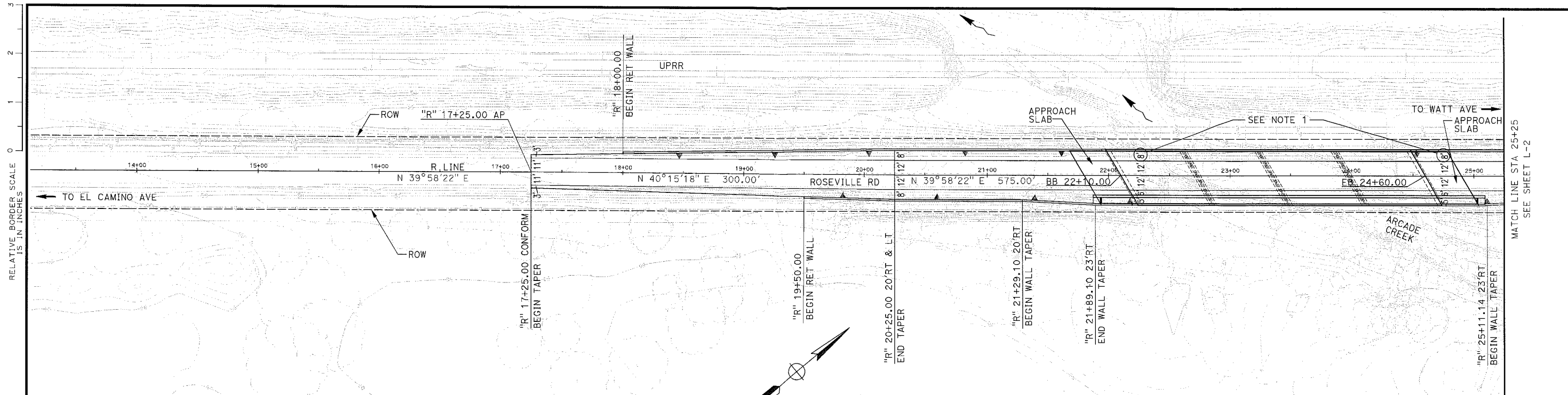
DESIGNED BY: J. ARELLANO	CHECKED BY: J. ROCCANOVA
DATE JUN 2012	DATE JUN 2012
R.C.E. _____	R.C.E. C48057



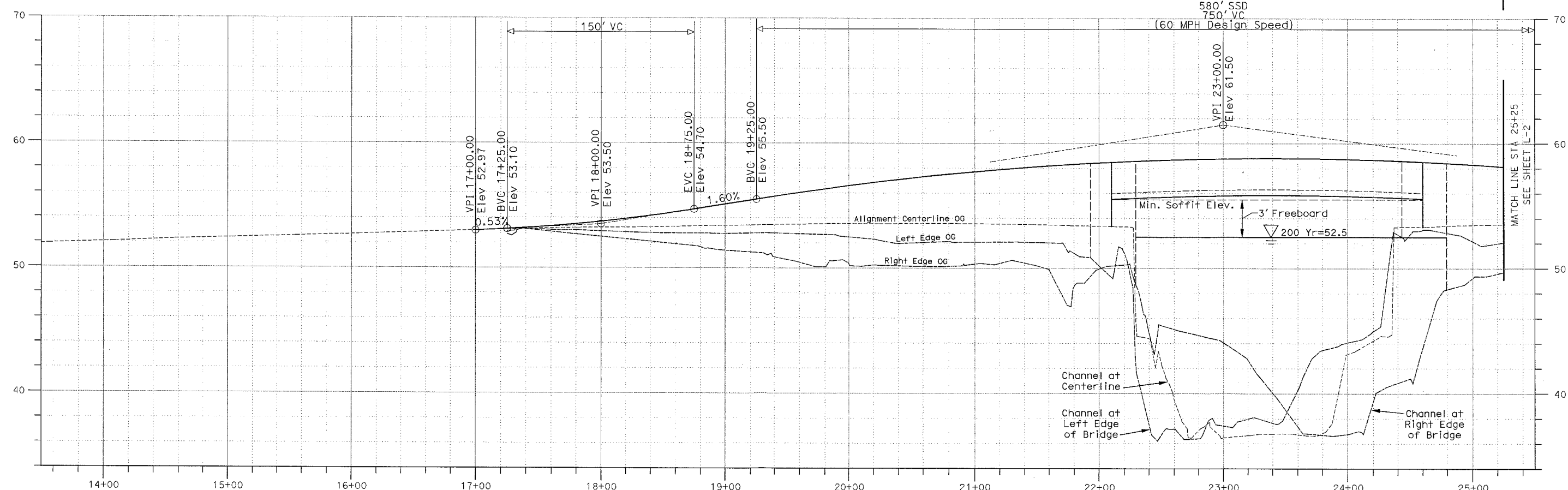
**DAVID EVANS AND ASSOCIATES INC.**  
1544 Eureka Road, Suite 200  
Roseville California 95661

IMPROVEMENT PLANS FOR  
**ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT**  
TYPICAL CROSS SECTIONS

PN: T15068500 SHEET X-1 OF



- NOTES:**
1. SHOULDER WIDTH ACROSS NORTHWESTERLY SIDE OF BRIDGE VARIES, PENDING BRIDGE TYPE SELECTION.  
 PC/PS CONC. VOIDED SLAB BRIDGE OPTION WILL HAVE A SHOULDER WIDTH OF 7'-7".  
 CIP REINF. CONC. SLAB BRIDGE OPTION WILL HAVE A SHOULDER WIDTH OF 8'-0".



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REVISIONS				BENCH MARK	FIELD BOOK
NO.	DESCRIPTION	DATE	BY		
				DESCRIPTION:	ELEV. _____

**CITY OF SACRAMENTO**  
DEPARTMENT OF TRANSPORTATION

SCALE: HORIZ. 1"=40' VERT. 1"=4'

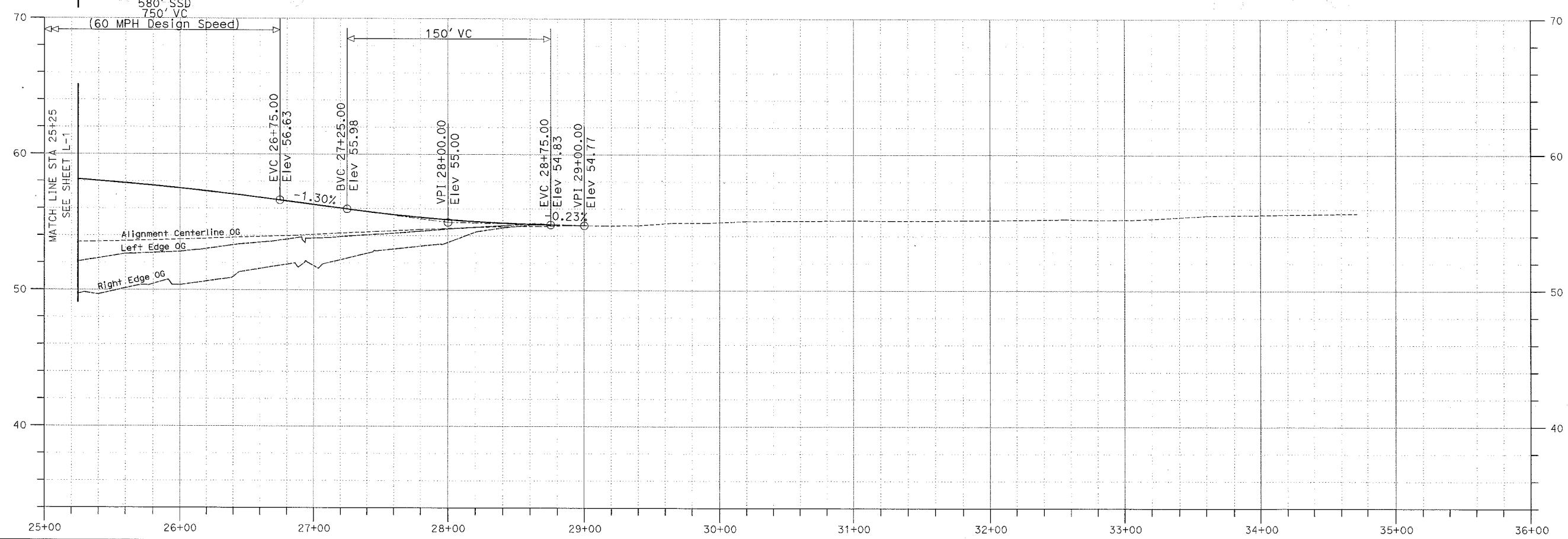
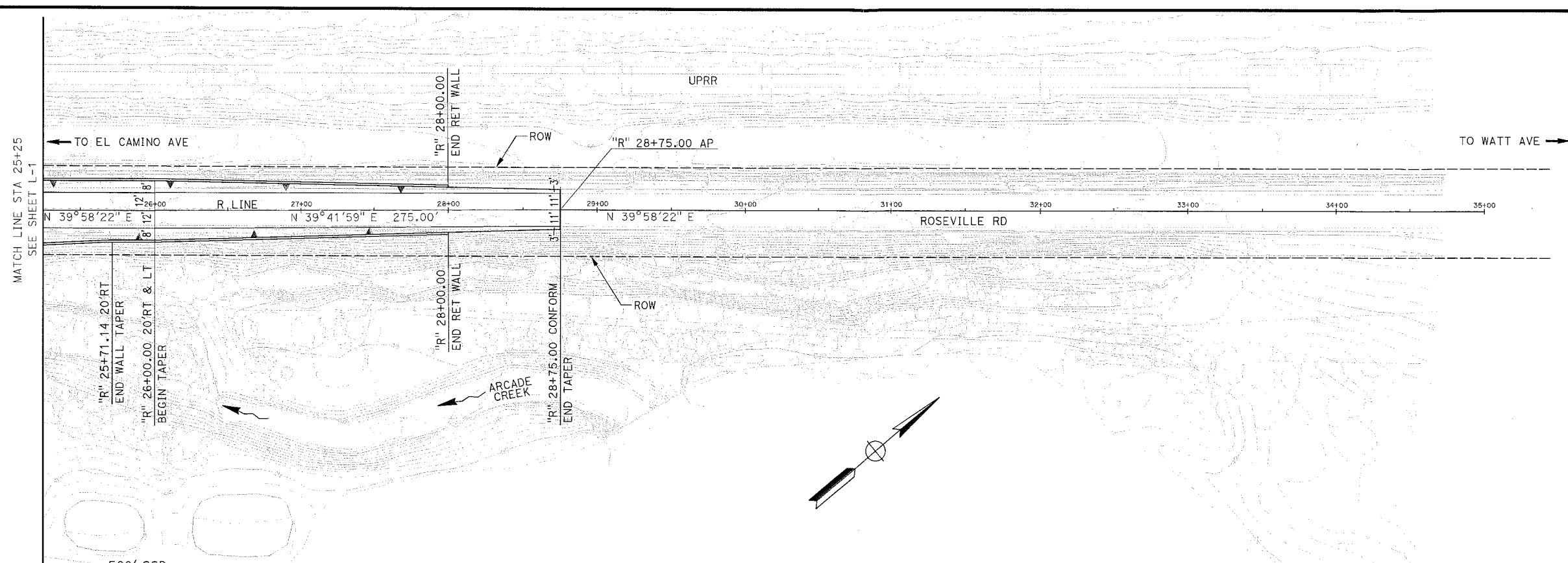
DRAWN BY: L. ANDERSEN DATE: JUN 2012  
 DESIGNED BY: J. ARELLANO R.C.E. DATE: JUN 2012  
 CHECKED BY: J. ROCCANOVA R.C.E. C48057 DATE: JUN 2012

**DAVID EVANS AND ASSOCIATES INC.**  
 1544 Eureka Road, Suite 200  
 Roseville California 95661

**IMPROVEMENT PLANS FOR**  
**ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT**  
**PLAN AND PROFILE**

PN: T15068500 SHEET L-1 OF

RELATIVE BORDER SCALE  
IS IN INCHES



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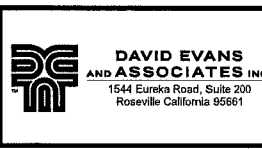
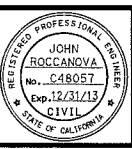
REVISIONS			
NO.	DESCRIPTION	DATE	BY

BENCH MARK	ELEV.
DESCRIPTION:	

FIELD BOOK
SCALE
HORIZ. 1"=40'
VERT. 1"=4'

**CITY OF SACRAMENTO**  
DEPARTMENT OF TRANSPORTATION

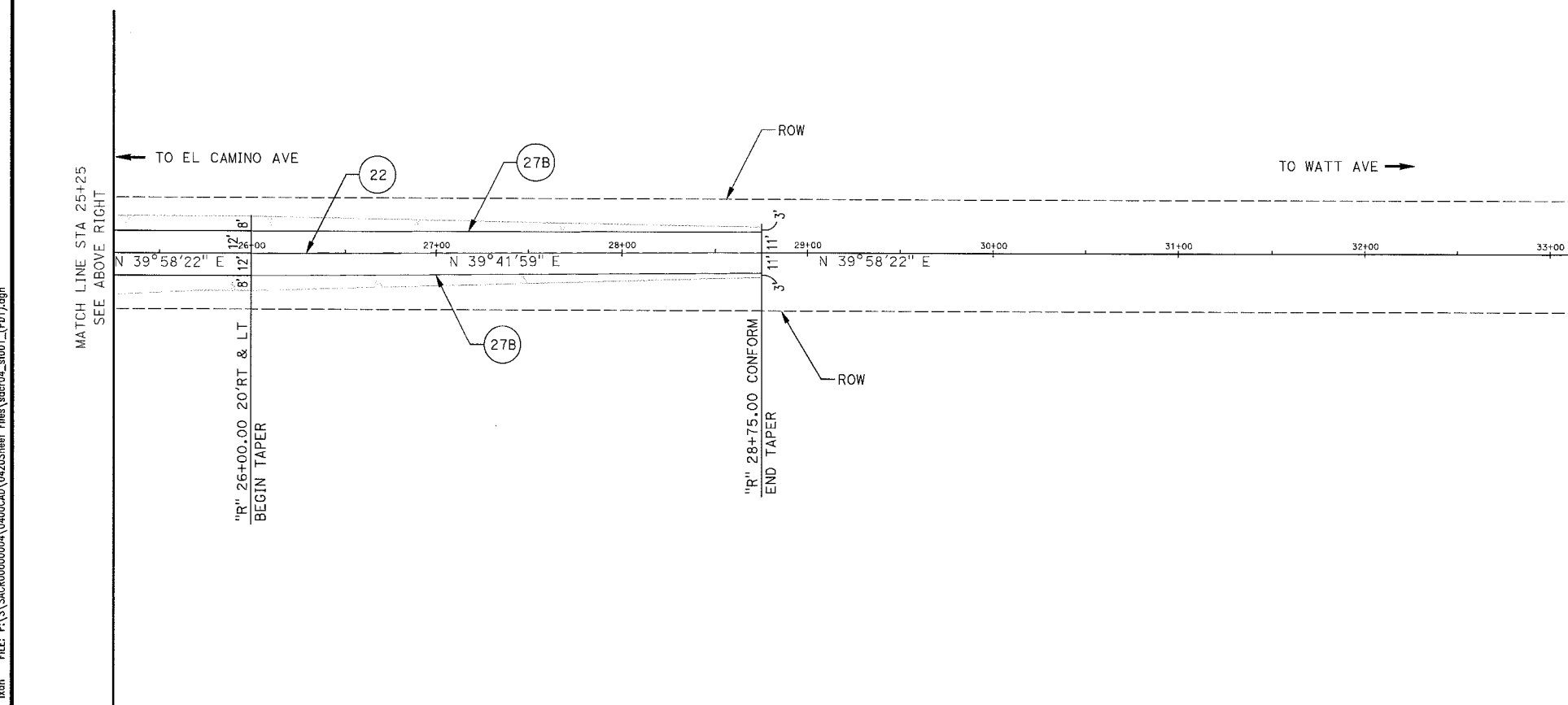
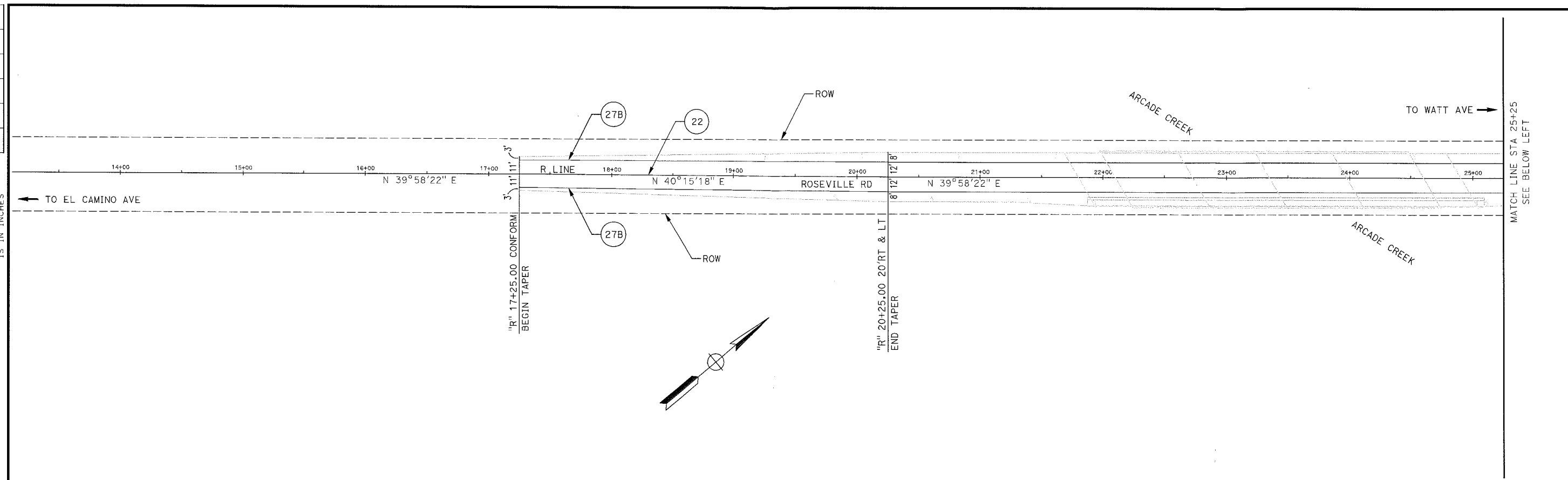
DRAWN BY: L. ANDERSEN	DESIGNED BY: J. ARELLANO	CHECKED BY: J. ROCCANOVA
DATE: JUN 2012	R.C.E. DATE: JUN 2012	R.C.E. C48057 DATE: JUN 2012



IMPROVEMENT PLANS FOR  
**ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT**  
PLAN AND PROFILE

PN: T15068500 SHEET L-2 OF

RELATIVE BORDER SCALE  
IS IN INCHES



LEGEND:  
- PLACE HOLDER FOR LEGEND

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REVISIONS				BENCH MARK DESCRIPTION: _____ ELEV. _____	FIELD BOOK
NO.	DESCRIPTION	DATE	BY		

**CITY OF SACRAMENTO  
DEPARTMENT OF TRANSPORTATION**

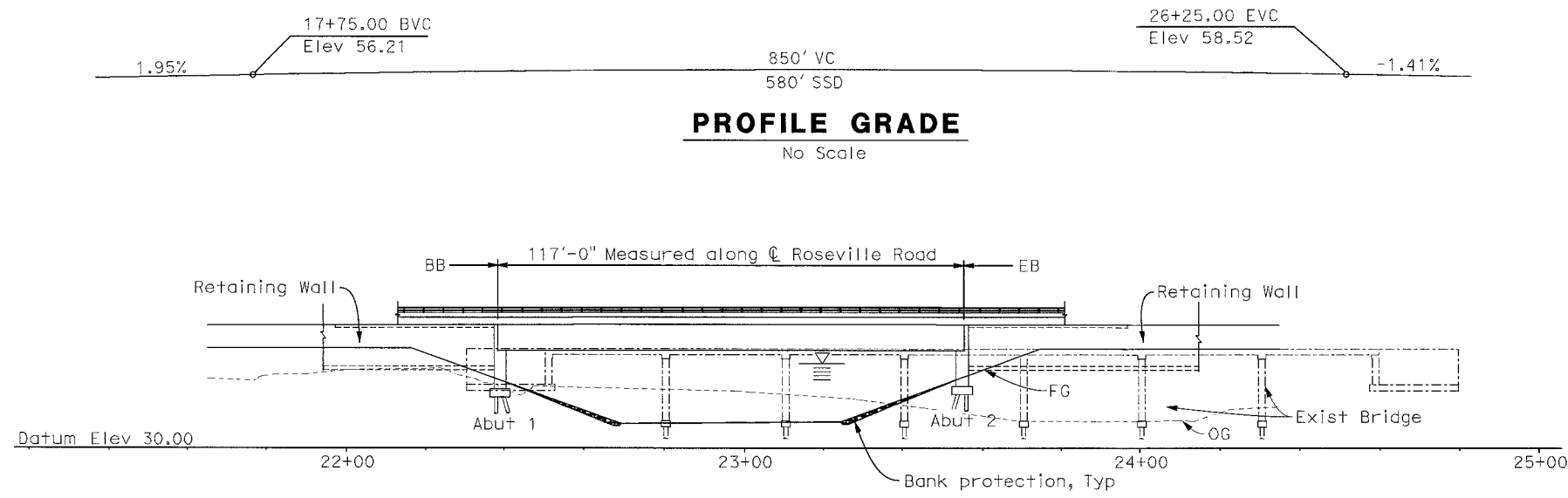
SCALE  
HORIZ. 1"=40'  
VERT. 1"=4'

DRAWN BY: L. ANDERSEN      DESIGNED BY: J. ARELLANO      CHECKED BY: J. ROCCANOVA  
DATE: JUN 2012                      R.C.E.                      DATE: JUN 2012                      R.C.E. C48057                      DATE: JUN 2012

**DAVID EVANS AND ASSOCIATES INC.**  
 1544 Eureka Road, Suite 200  
 Roseville California 95661

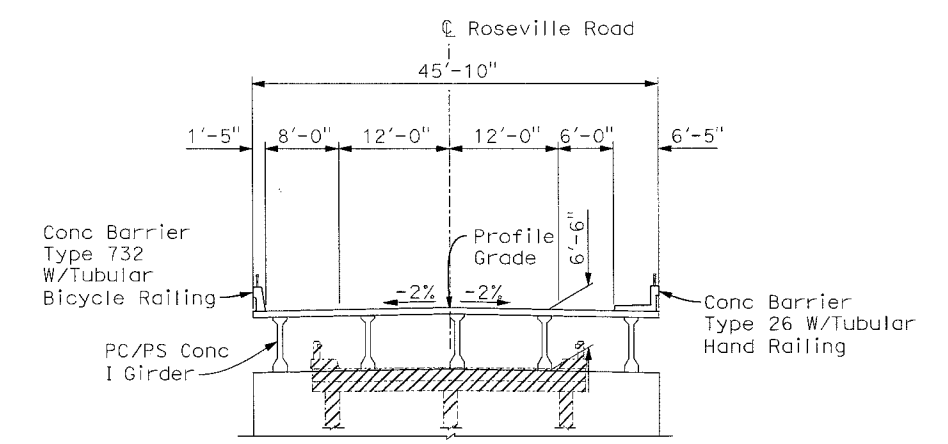
IMPROVEMENT PLANS FOR  
**ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT**  
 PAVEMENT DELINEATION & SIGNING PLAN

PN: T15066500      SHEET PD-1 OF



▽ 100Yr WSE 48.80'(NAVD88)  
 ≡ 200Yr WSE 50.70'(NAVD88)

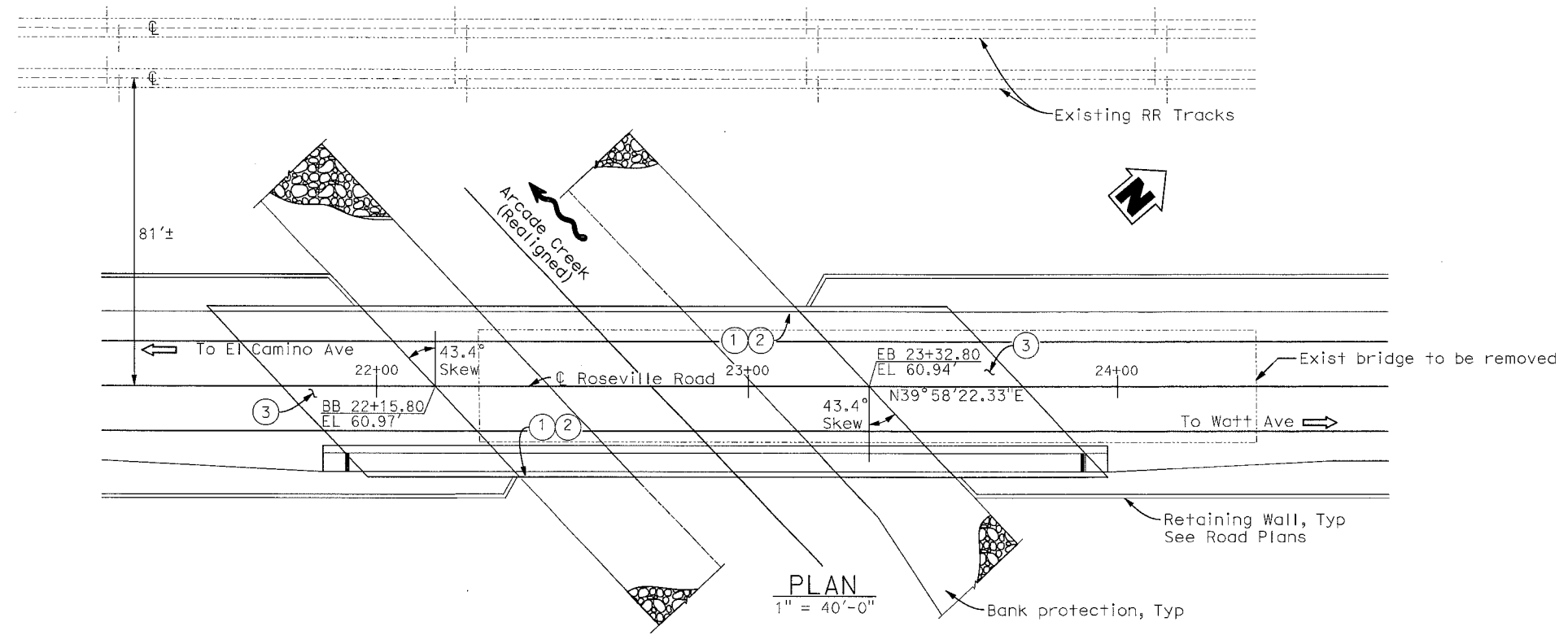
**ELEVATION**  
 1" = 40'-0"



**TYPICAL SECTION**  
 1" = 20'-0"

- Legend:**
- ① Paint "Roseville Road Bridge"
  - ② Paint "Br. No. 24C0554"
  - ③ Structure Approach Type N (30S)

- Vehicular Traffic**
- 1. \_\_\_ New alignment. No traffic at the site.
  - 2. X Traffic will be detoured away from the site.
  - 3. \_\_\_ Traffic will be carried on the structure. Stage construction will/will not be required.
  - 4. \_\_\_ Traffic will pass under the structure on

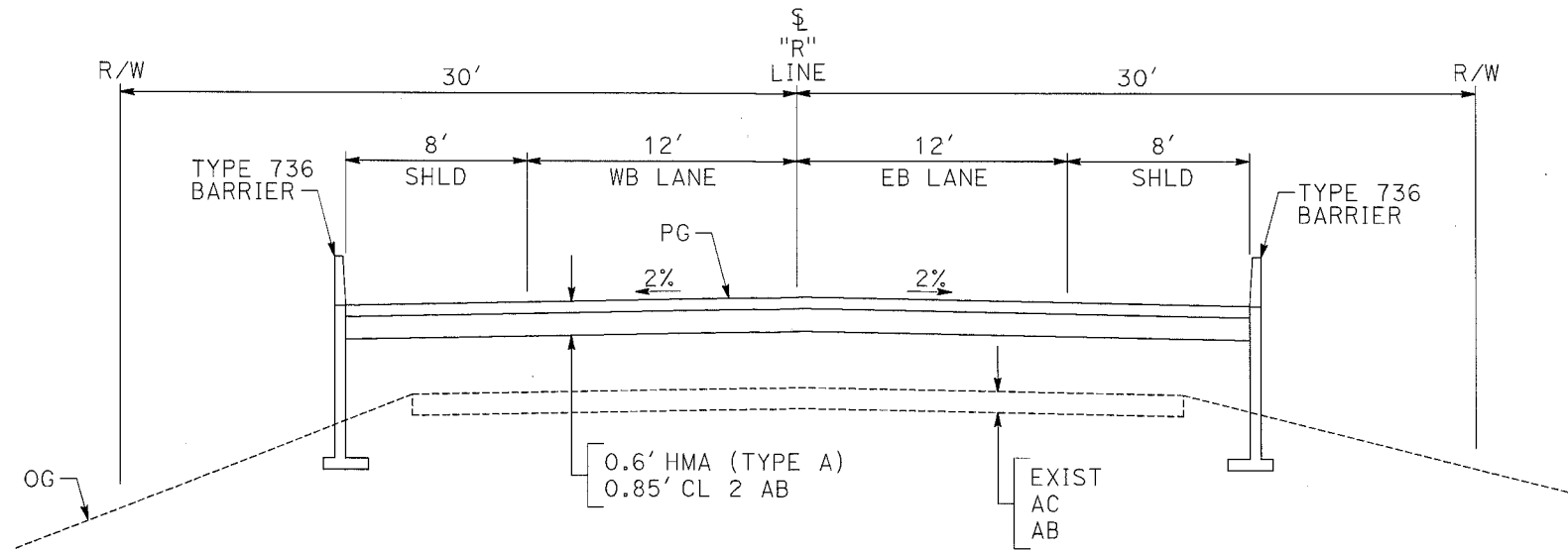


**PLAN**  
 1" = 40'-0"

CAD FILE:

<b>REVISIONS</b>				<b>BENCH MARK</b>		<b>FIELD BOOK</b>		<b>CITY OF SACRAMENTO</b>				<b>DAVID EVANS AND ASSOCIATES INC.</b>		<b>REPLACEMENT PROJECT FOR</b>	
NO.	DESCRIPTION	DATE	BY	ELEV.	DESCRIPTION:	SCALE	<b>DEPARTMENT OF TRANSPORTATION</b>				<b>1544 Eureka Road, Suite 200</b>		<b>ROSEVILLE ROAD BRIDGE (Br. No. 24C0554)</b>		
							<b>DESIGNED BY: D. PECCHIA</b>				<b>1544 Eureka Road, Suite 200</b>		<b>BRIDGE REPLACEMENT (CHANNEL REALIGNED)</b>		
							<b>DATE JAN 2012</b>				<b>Roseville California 95661</b>		<b>GENERAL PLAN</b>		
							<b>UNDER THE SUPERVISION OF</b>				<b>R.C.E. EXP. DATE</b>		<b>PN: T15068500</b>		
							<b>JOHN ROCCAWONA</b>				<b>SHEET</b>		<b>OF</b>		

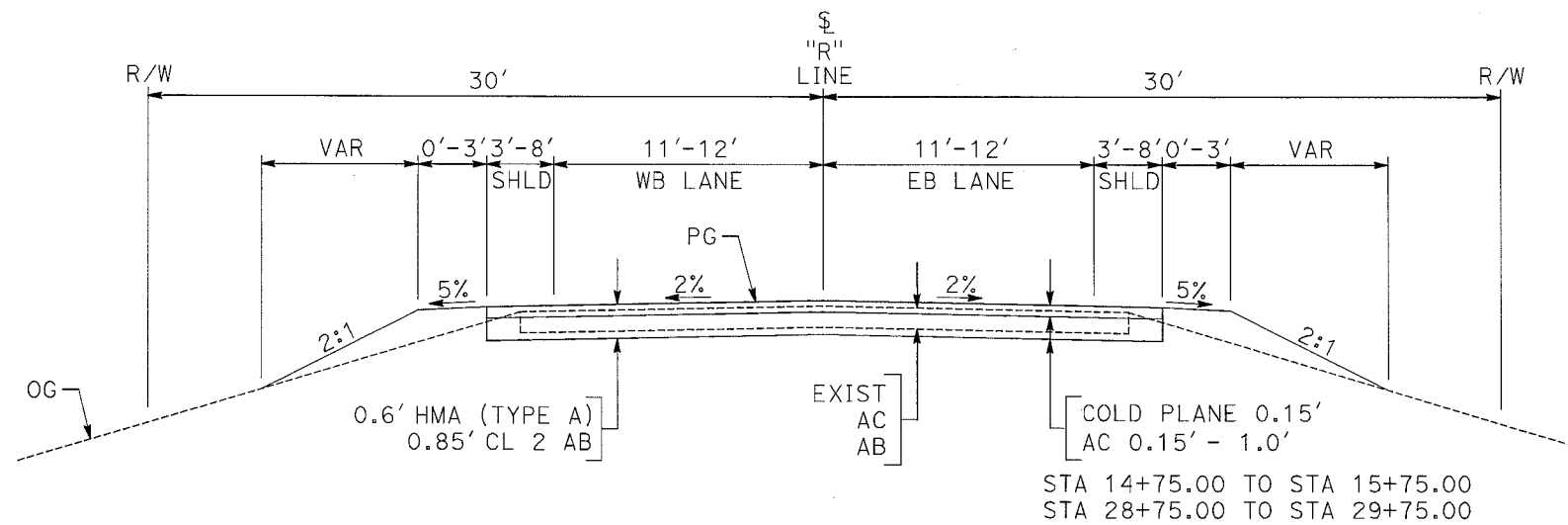




**ROSEVILLE ROAD**

"R" LINE

STA 18+75.00 TO STA 27+50.00



**ROSEVILLE ROAD**

"R" LINE

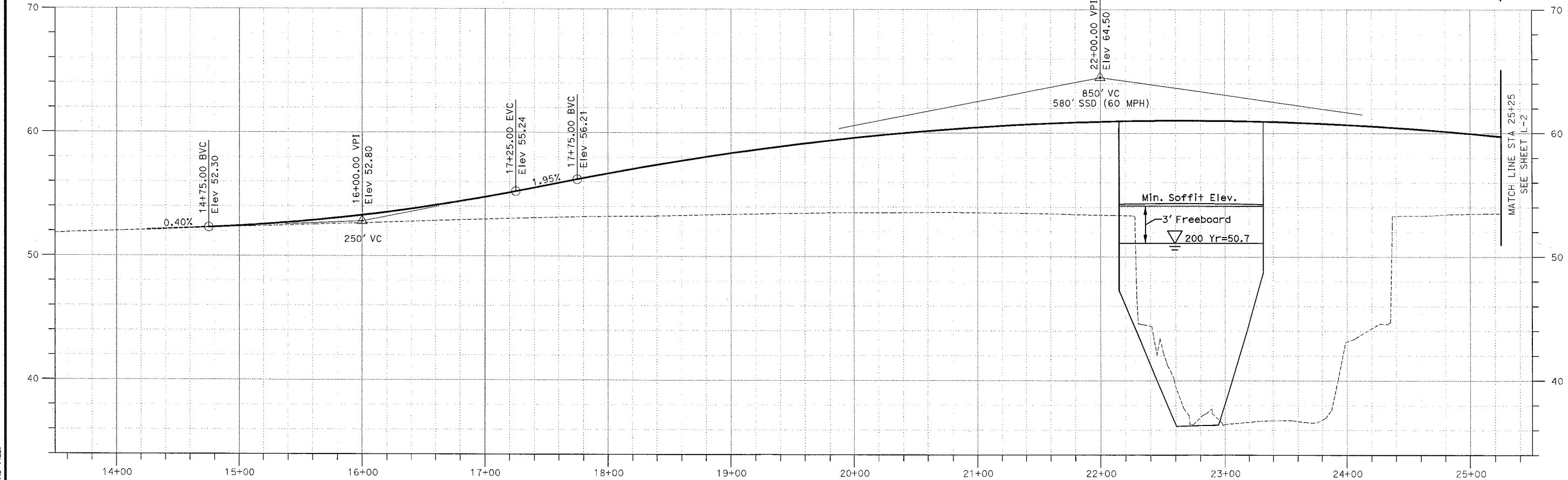
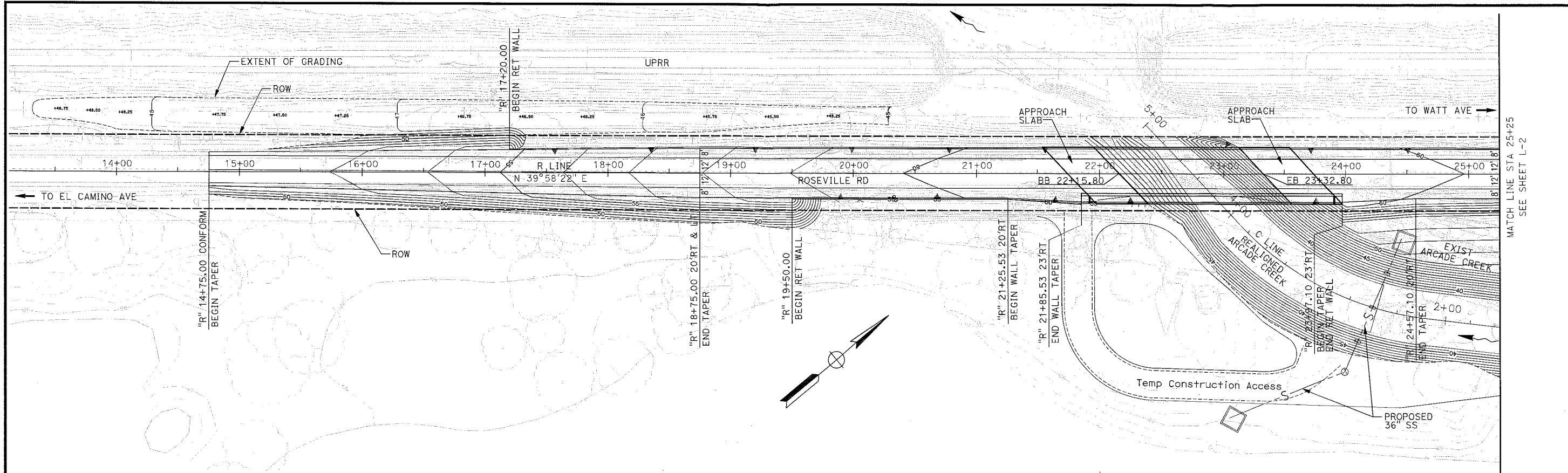
STA 14+75.00 TO STA 18+75.00  
STA 27+50.00 TO STA 29+75.00

CAD FILE:

CREEK REALIGNMENT ALT

REVISIONS				BENCH MARK DESCRIPTION: _____ ELEV. _____	FIELD BOOK	CITY OF SACRAMENTO DEPARTMENT OF TRANSPORTATION			DAVID EVANS AND ASSOCIATES INC. 1544 Eureka Road, Suite 200 Roseville California 95661	IMPROVEMENT PLANS FOR ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT TYPICAL CROSS SECTIONS	SHEET X-1 OF _____
NO.	DESCRIPTION	DATE	BY			SCALE	DRAWN BY: L. ANDERSEN	DESIGNED BY: J. ARELLANO			

PN: T15068500



CAD FILE:

REVISIONS				BENCH MARK DESCRIPTION: _____ ELEV. _____	FIELD BOOK
NO.	DESCRIPTION	DATE	BY		

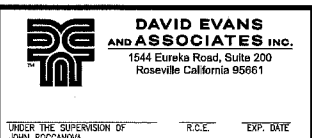
**CITY OF SACRAMENTO**  
DEPARTMENT OF TRANSPORTATION

SCALE: HORIZ. 1"=40'  
VERT. 1"=4'

DRAWN BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

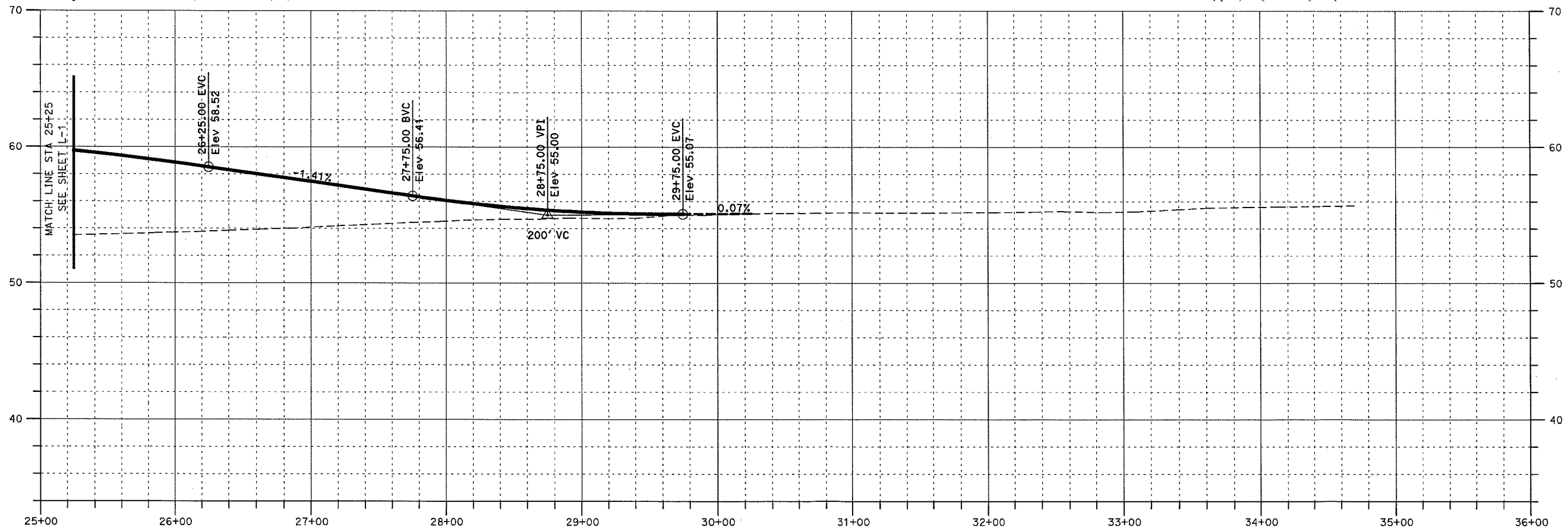
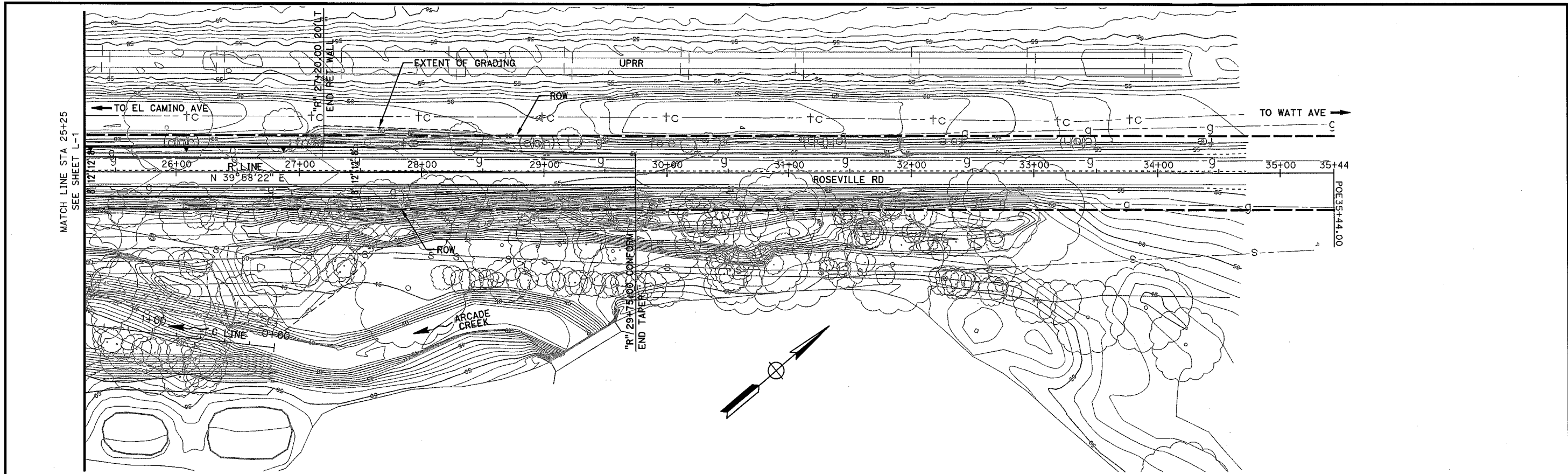
DESIGNED BY: J. ROCCANOVA  
R.C.E. C48057 DATE JAN 2012

CHECKED BY: \_\_\_\_\_  
R.C.E. \_\_\_\_\_ DATE \_\_\_\_\_



IMPROVEMENT PLANS FOR  
**ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT**  
PLAN AND PROFILE

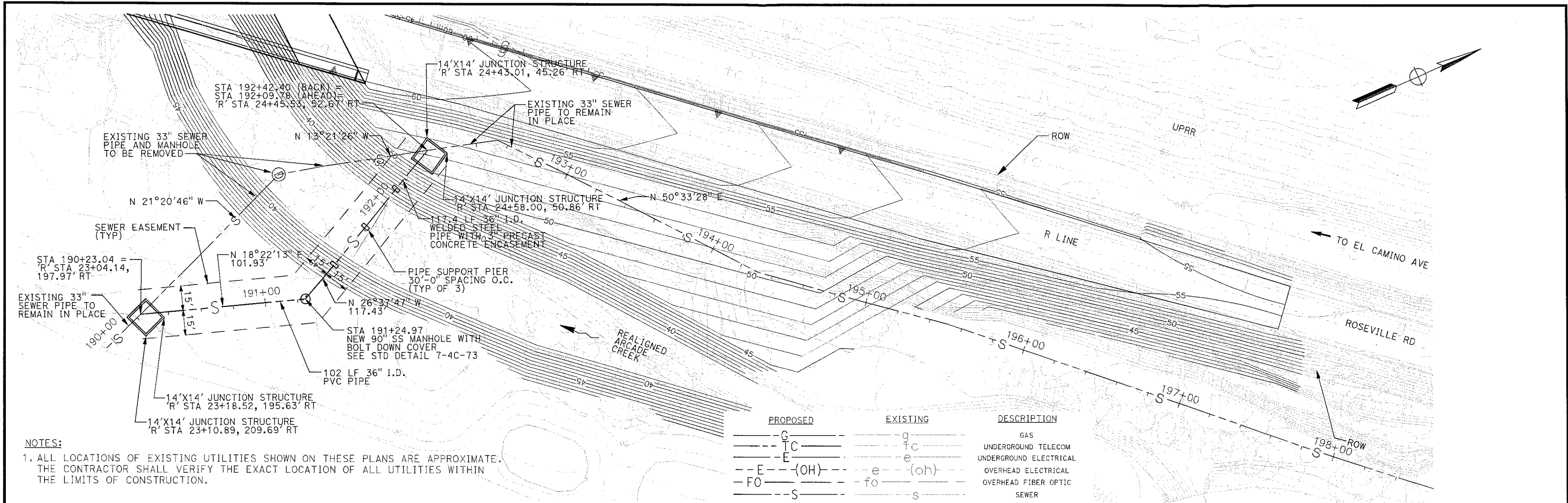
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SHEET L-1 OF



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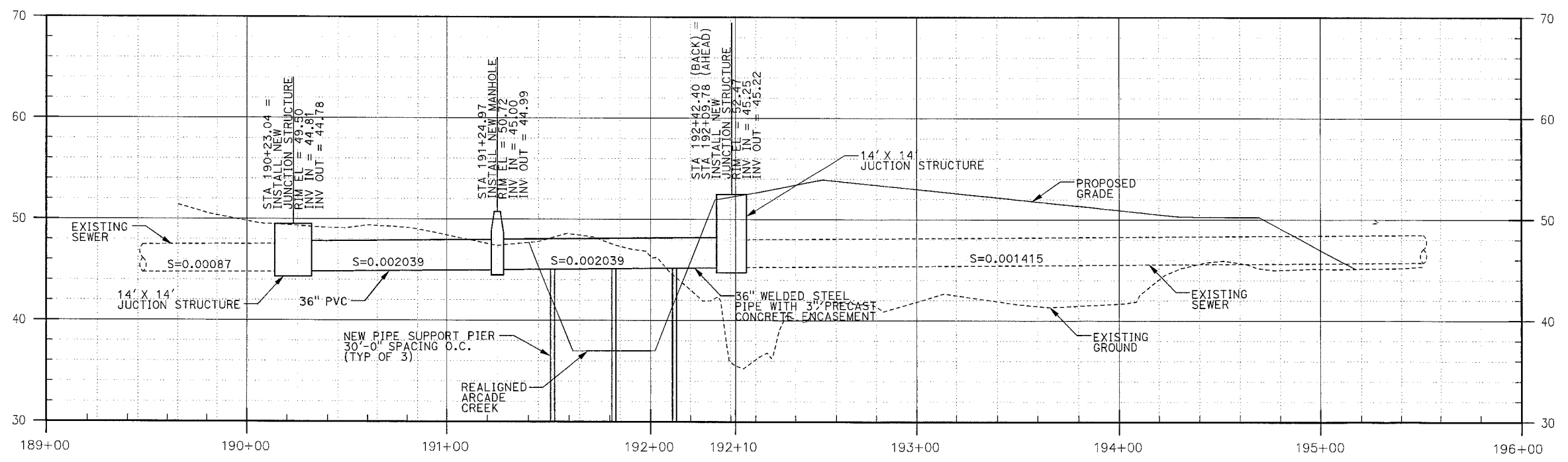
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NO.	DESCRIPTION	DATE	BY			DESIGNED BY: _____	R.C.E. C48057 DATE JAN 2012	CHECKED BY: _____		R.C.E. _____ DATE _____	UNDER THE SUPERVISION OF JOHN ROCCANOVA		





**NOTES:**  
 1. ALL LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION.

PROPOSED	EXISTING	DESCRIPTION
-G-	g	GAS
-TC-	tc	UNDERGROUND TELECOM
-E-	e	UNDERGROUND ELECTRICAL
-E-(OH)-	e-(oh)	OVERHEAD ELECTRICAL
-FO-	fo	OVERHEAD FIBER OPTIC
-S-	s	SEWER



CAD FILE:

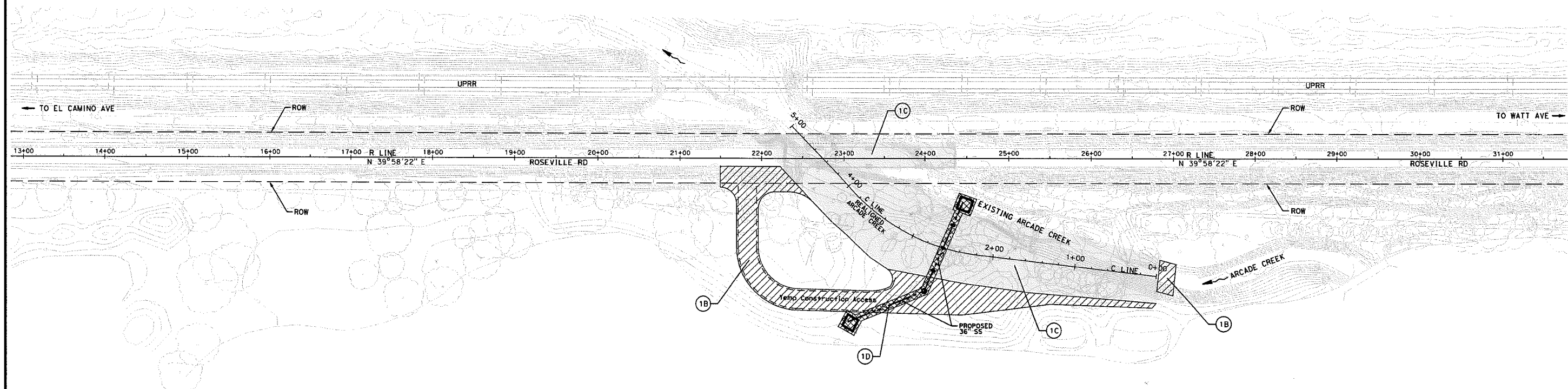
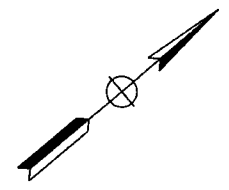
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NO.	DESCRIPTION	DATE	BY	ELEV.	DESCRIPTION:	SCALE	DRAWN BY:	<b>DEPARTMENT OF TRANSPORTATION</b>				<b>1544 Eureka Road, Suite 200</b>		<b>ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT</b>			
						HORIZ. 1"=30'		DESIGNED BY: J. ROCCANOVA				<b>1544 Eureka Road, Suite 200</b>		<b>33" SEWER PLAN AND PROFILE</b>			
						VERT. _____	DATE _____	R.C.E. C48057 DATE JAN 2012				<b>Roseville California 95661</b>		<b>UNDER THE SUPERVISION OF JOHN ROCCANOVA</b>			
								CHECKED BY: _____				R.C.E. _____		EXP. DATE _____			
												PN: T15068500		SHEET SS-1		OF _____	

**NOTES:**

1. THIS PLAN IS ACCURATE FOR STAGING CONCEPT ONLY.
2. CONTRACTOR TO MAINTAIN CONTINUOUS CREEK FLOW DOWNSTREAM OF SITE.

**LEGEND:**

	- CONSTRUCT PHASE B
	- CONSTRUCT PHASE C
	- CONSTRUCT PHASE D



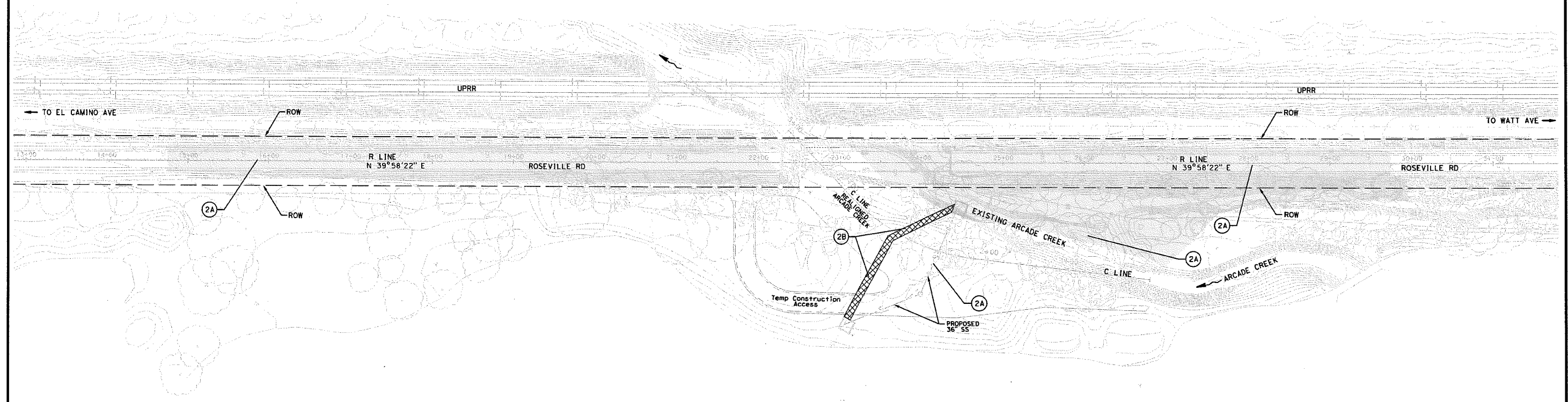
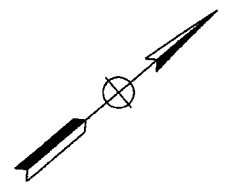
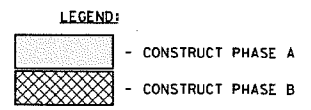
**SEQUENCE OF CONSTRUCTION (20 WORKING DAYS)**

- 1A INSTALL DETOUR AND STOP TRAFFIC ON ROSEVILLE ROAD.
- 1B CONSTRUCT TEMPORARY ACCESS ROAD. CONSTRUCT CHECK DAM WITH BYPASS PIPE TO AN OUTFALL DOWNSTREAM OF BRIDGE.
- 1C REMOVE EXISTING BRIDGE. EXCAVATE NEW CHANNEL. EXCAVATED MATERIAL TO BE STOCKPILED OR PLACED AS ENGINEERED ROADWAY FILL. EXISTING 33"SS WILL REQUIRE FALSEWORK SUPPORT.
- 1D CONSTRUCT 36"SS.

CAD FILE:

<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS				NO.	DESCRIPTION	DATE	BY													<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>BENCH MARK</td> <td>ELEV. _____</td> </tr> <tr> <td>DESCRIPTION:</td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	BENCH MARK	ELEV. _____	DESCRIPTION:				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>FIELD BOOK</td> <td> </td> </tr> <tr> <td>SCALE</td> <td> </td> </tr> <tr> <td>HORIZ. 1"=60'</td> <td> </td> </tr> <tr> <td>VERT. _____</td> <td> </td> </tr> </table>	FIELD BOOK		SCALE		HORIZ. 1"=60'		VERT. _____		<p><b>CITY OF SACRAMENTO</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DESIGNED BY: J. ROCCANOVA</td> <td>CHECKED BY: _____</td> </tr> <tr> <td>R.C.E. C48057 DATE JAN 2012</td> <td>R.C.E. _____ DATE _____</td> </tr> </table>	DESIGNED BY: J. ROCCANOVA	CHECKED BY: _____	R.C.E. C48057 DATE JAN 2012	R.C.E. _____ DATE _____	<p><b>DAVID EVANS AND ASSOCIATES INC.</b> 1544 Eureka Road, Suite 200 Roseville California 95661</p> <p>UNDER THE SUPERVISION OF R.C.E. _____ EXP. DATE _____</p>	<p>IMPROVEMENT PLANS FOR <b>ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT</b> STAGE CONSTRUCTION - STAGE 1</p>	<p>PN: T15066500</p> <p>SHEET <b>SC-1</b> — OF —</p>
REVISIONS																																												
NO.	DESCRIPTION	DATE	BY																																									
BENCH MARK	ELEV. _____																																											
DESCRIPTION:																																												
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DESIGNED BY: J. ROCCANOVA	CHECKED BY: _____																																											
R.C.E. C48057 DATE JAN 2012	R.C.E. _____ DATE _____																																											

**NOTES:**  
 1. THIS PLAN IS ACCURATE FOR STAGING CONCEPT ONLY.  
 2. CONTRACTOR TO MAINTAIN CONTINUOUS CREEK FLOW  
 DOWNSTREAM OF SITE.



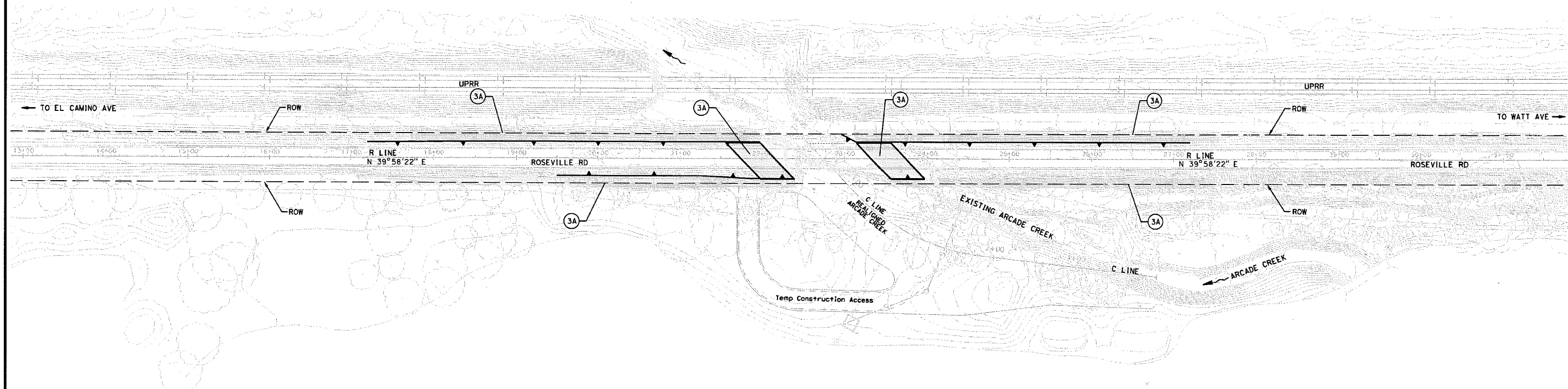
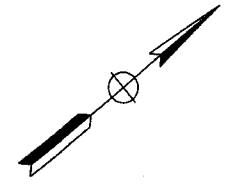
- SEQUENCE OF CONSTRUCTION (10 WORKING DAYS)**
- ②A FILL AND GRADE EXISTING CREEK CHANNEL.  
 BEGIN ROUGH GRADING ROADWAY FOR RETAINING WALL AND ABUTMENT CONSTRUCTION.  
 SHIFT FLOW TO NEW 36"SS.
  - ②B REMOVE EXISTING 33"SS.

CAD FILE:

<b>REVISIONS</b>				<b>BENCH MARK</b> ELEV. _____ DESCRIPTION: _____	<b>FIELD BOOK</b> SCALE _____ HORIZ. 1"=60' VERT. _____	<b>CITY OF SACRAMENTO</b> <b>DEPARTMENT OF TRANSPORTATION</b>			 <b>DAVID EVANS AND ASSOCIATES INC.</b> 1544 Eureka Road, Suite 200 Roseville California 95661	<b>IMPROVEMENT PLANS FOR</b> <b>ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT</b> <b>STAGE CONSTRUCTION - STAGE 2</b>		SHEET <b>SC-2</b> — OF —
NO.	DESCRIPTION	DATE	BY			DRAWN BY: _____ DATE _____	DESIGNED BY: <u>J. ROCCANOVA</u> R.C.E. C48057 DATE JAN 2012	CHECKED BY: _____ R.C.E. _____ DATE _____		PN: T16068500		

**NOTES:**  
 1. THIS PLAN IS ACCURATE FOR STAGING CONCEPT ONLY.  
 2. CONTRACTOR TO MAINTAIN CONTINUOUS CREEK FLOW DOWNSTREAM OF SITE.

**LEGEND:**  
 [Symbol] - CONSTRUCT PHASE A



**SEQUENCE OF CONSTRUCTION (30 WORKING DAYS)**

- ③A CONSTRUCT ABUTMENTS.
- ③A CONSTRUCT RETAINING WALLS.

CAD FILE:




<b>REVISIONS</b>				<b>BENCH MARK</b> ELEV. _____ DESCRIPTION: _____	<b>FIELD BOOK</b> SCALE HORIZ. 1"=60' VERT. _____	<b>CITY OF SACRAMENTO</b> <b>DEPARTMENT OF TRANSPORTATION</b>			 <b>DAVID EVANS AND ASSOCIATES INC.</b> 1544 Eureka Road, Suite 200 Roseville California 95661	<b>IMPROVEMENT PLANS FOR</b> <b>ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT</b> <b>STAGE CONSTRUCTION - STAGE 3</b>		PN: T15068500	SHEET <b>SC-3</b> — OF —
NO.	DESCRIPTION	DATE	BY			DRAWN BY: _____ DATE _____	DESIGNED BY: <u>J. ROCCANOVA</u> R.C.E. C48057 DATE JAN 2012	CHECKED BY: _____ R.C.E. _____ DATE _____		UNDER THE SUPERVISION OF  R.C.E. EXP. DATE _____			

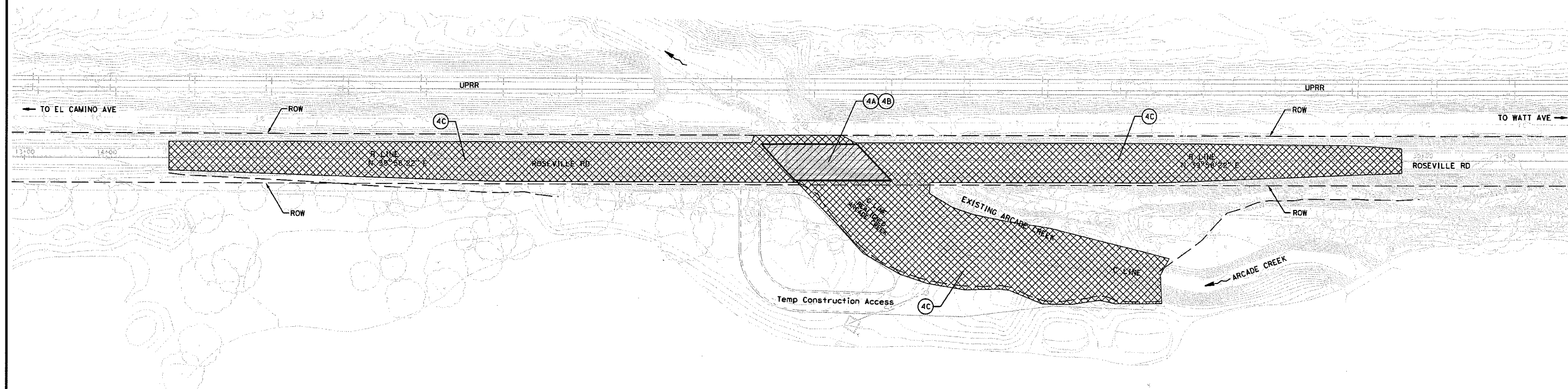
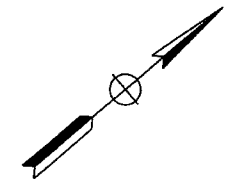


**NOTES:**

- 1. THIS PLAN IS ACCURATE FOR STAGING CONCEPT ONLY.
- 2. CONTRACTOR TO MAINTAIN CONTINUOUS CREEK FLOW DOWNSTREAM OF SITE.

**LEGEND:**


-  - CONSTRUCT PHASE A
-  - CONSTRUCT PHASE B
-  - CONSTRUCT PHASE C



**SEQUENCE OF CONSTRUCTION (30 WORKING DAYS)**

- 4A ERECT GIRDERS.
- 4B FORM AND POUR DECK/RAILS.
- 4C PLACE CHANNEL STABILIZATION AND RIP RAP. FINISH GRADE ROADWAY.

CAD FILE:

<b>REVISIONS</b>				<b>BENCH MARK</b> ELEV. _____ DESCRIPTION:	<b>FIELD BOOK</b>  SCALE HORIZ. 1"=60' VERT. _____	<b>CITY OF SACRAMENTO</b> <b>DEPARTMENT OF TRANSPORTATION</b>			 <b>DAVID EVANS AND ASSOCIATES INC.</b> 1544 Eureka Road, Suite 200 Roseville California 95661	<b>IMPROVEMENT PLANS FOR</b> <b>ROSEVILLE ROAD - ARCADE CREEK BRIDGE REPLACEMENT</b> <b>STAGE CONSTRUCTION - STAGE 4</b>		PN: T15068500	SHEET <b>SC-4</b> OF _____
NO.	DESCRIPTION	DATE	BY			DRAWN BY: _____	DESIGNED BY: <u>J. ROCCANOVA</u>	CHECKED BY: _____		R.C.E. _____	DATE _____		



# **STRUCTURE TYPE SELECTION REPORT**

## **Roseville Road Bridge**

BRIDGE NUMBER: 24C0554

## **Roseville Road Bridge Replacement Project**

Federal Project No. BRLS-5002(115)

PN: T15068500

PREPARED FOR:  
**The City of Sacramento**

PREPARED BY:  
**David Evans and Associates, Inc.**  
1544 Eureka Road, Suite 200  
Roseville, California 95661



**DAVID EVANS  
AND ASSOCIATES INC.**

MAY 1, 2012

## TABLE OF CONTENTS

<b>Description:</b>	<b>Page Number:</b>
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Appendix C – Type Selection Summary Memorandum	11



DAVID EVANS  
AND ASSOCIATES INC.

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**DATE:** April 30, 2012  
**TO:** City of Sacramento

**FROM:** Daniel Sun, P.E., Senior Bridge Engineer  
David Evans and Associates, Inc.

**SUBJECT:** STRUCTURE TYPE SELECTION REPORT  
Roseville Road Bridge, Bridge Number 24C0554

**EA:**

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## **PURPOSE**

The purpose of the Type Selection Memo is to address all pertinent issues related to the preparation of the General Plan.

## **INTRODUCTION**

The City of Sacramento (City), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the Roseville Road bridge over Arcade Creek (Bridge No. 24C-0003). The existing bridge is structurally deficient due to longitudinal and transverse cracks in the deck and exposed footings, and functionally obsolete due to narrow shoulders and inadequate barrier rails. The project would also replace approximately 700 feet of road approach on the south side of the existing bridge and 550 feet of road on the north side. The total length of the project is approximately 1500 feet.

The bridge replacement will also serve to improve the hydraulics of Arcade Creek as it passes under the bridge to reduce future scour potential around bridge abutments. Other secondary purposes include:

- Provide accommodations for bicycle and pedestrian use in the future;
- Enhance riparian habitat in the project area, upstream of the bridge, through nonnative invasive plant removal and native plant installation; and
- Reduce maintenance costs.

This bridge Type Selection Memo is based on the channel realignment alternative which proposes to realign Arcade Creek to improve hydraulic performance, reduce bridge length and reduce foundation scour. With the realignment of the creek, the bridge skew is reduced from 70° to approximately 43° resulting in a reduction in proposed bridge length from 320 feet to approximately 120 feet. The environmental document is currently in public circulation and CEQA/NEPA approval is expected by the end of March 2012. The channel realignment alternative is the preferred alternative.

Preliminary consultations with the permitting agencies have begun for the following permits:

Required Permits, Reviews, and Approvals		
Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 authorization for fill of waters of the United States	initiated
California Department of Fish and Game	California Fish and Game Code Section 1602 streambed alteration agreement	initiated
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401 water quality certification	initiated
Central Valley Flood Protection Board	Encroachment permit	initiated
Sacramento Area Flood Control Agency	Review/approval of hydraulic impacts.	Completed
Union Pacific Railroad	Temporary easement	initiated
Haggin Oaks Golf Complex	Temporary easement	initiated

**TYPE SELECTION RECOMMENDATION**

The recommended structure type is a precast prestressed (PC/PS) concrete I-girder bridge. The bridge will consist of a single span and will be supported by short seat type abutments. A detailed discussion of the recommended type selection is provided herein. The General Plan is included in Appendix A.

STRUCTURES					
	Bridge Name	Bridge Number	Width/Height	Length	Comments
1	Roseville Road Br.	24C0554	45'-10"	117'-0"	Single Span

**PROJECT COSTS**

The General Plan Estimate is included in Appendix B:

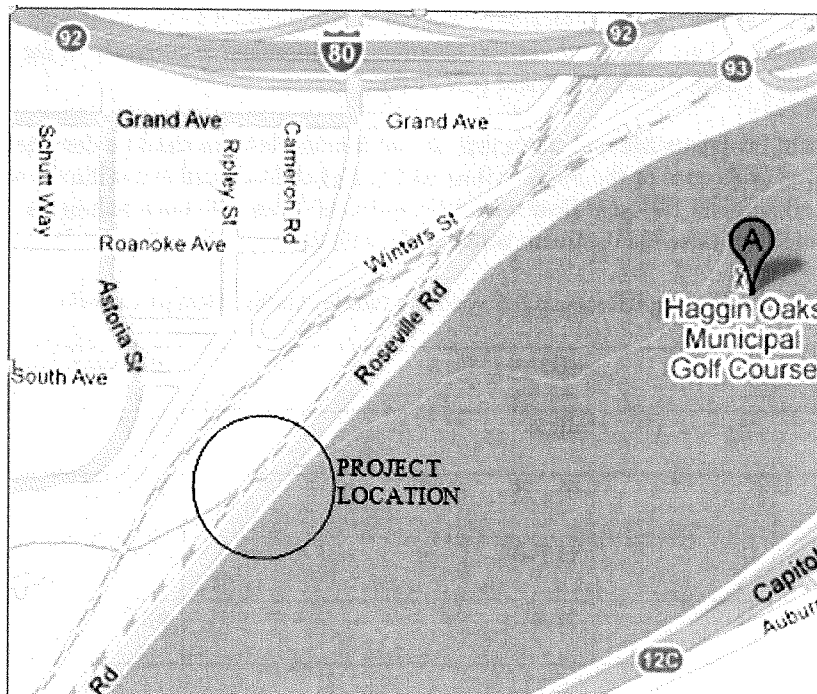
- Total Bridge Cost ----- \$1,291,000
- Bridge Cost per square foot----- \$ 240.8/ sq. ft.

## PREVIOUS STUDIES

The following documents were used in developing this type selection recommendation:

- Draft Project Report (PR), dated January 2012
- Preliminary Foundation Report (PFR), dated December 2008
- Preliminary Hydraulic Report (PHR), dated January 2012

## PROJECT LOCATION



Vicinity Map

## STRUCTURE DESIGN ISSUES

Design Alternatives and Structure Type: The recommended structure type is a precast prestressed concrete I-girder bridge. Factors leading to this recommendation include:

- The closing of Roseville Road for construction. A precast bridge will shorten the duration the road is closed.
- The straight alignment of Roseville Road results in a precast I-girder structure being an ideal solution.

A cast-in-place prestressed box girder bridge was also considered; but because of the longer construction period and longer road closure required, it is not recommended.

**Design Criteria:** The design will be based on the *AASHTO LRFD Bridge Design Specifications, Fifth Edition, with California Amendments, V.5*, with the exception that the abutment design will be based on *Caltrans Bridge Design Specifications Load Factor Design Version April 2000*. Seismic Design will be based on *Caltrans Seismic Design Criteria, Version 1.4*, dated June 2006.

**Physical Constraints:** The proposed bridge must accommodate traffic on Roseville Road, including one northbound traffic lane, one southbound traffic lane, 6-foot and 8-foot shoulders on the east side and west side respectively, a 5-foot sidewalk on the east side, and concrete barriers on each side.

The proposed structure is 93 feet shorter than the original bridge. This change was made to realign Arcade Creek and reduce the skew from 70° to 43°. This improves hydraulics and reduces the scour potential around bridge abutments.

The profile of the proposed bridge structure was designed to satisfy roadway geometrics and the required minimum vertical clearance. Vertical clearance has one requirement: a 3-foot freeboard above a 200 year water surface elevation. This freeboard vertical clearance requirement is currently in the process of approving by the Central Valley Flood Protection Board (CVFPB).

The Caltrans' Local Programs Manual states that, at a minimum, bridges shall be designed to a) pass the greater of the Flood of Record or the 50-year flow with 2 feet of freeboard and without overtopping the roadway, and b) convey the 100-year flow without significant damage to encroachments. In addition, the selected design must not raise the upstream water surface elevation of the 100-year flow by more than 1 foot.

The table below illustrates the differences between the two Hydraulic Design Criteria.

	100-year flow	200-year flow
Water Elevation	48.8'	50.7'
Freeboard	0' – 3'	3'
Bridge Length	117'-0"	117'-0"
Bridge Soffit Elevation	51.8'	53.7'

Since the CVFPB criteria is more stringent than the Caltrans criteria, the CVFPB freeboard requirements were used as the basis of the design per a collaborative decision with the City of Sacramento. The 200 year water surface elevation is 50.7 feet. With a 3-foot freeboard, the minimum soffit elevation is 53.7 feet.

**Alignment and Profile Grade:** The proposed structure is located on a tangent. The structure is also located within a 850 foot vertical curve.

**Loads:** No special loading requirements are anticipated. The structure will be designed for the standard AASHTO load, HL93 'w/Low-Boy' and Permit Design Vehicle as required by the California Amendments V.4.

**Structure Approach:** According to Caltrans Memo to Designers Section 5.3, structure approaches are required for all portland cement pavements and in designated urbanized areas. Structure approach slabs (Type N(30S)) will be used to provide a smooth transition from the approach roadway to the pile supported abutment.

**Abutments:** Several abutment types were considered for the proposed structure. The recommended abutments are short seat abutments for the following reasons:



- Economy: Short seated abutment are the most practical and economical solution since there is sufficient horizontal clearance to Arcade Creek and the increase in span length does not result in an excessive structure depth. Tall cantilever abutments are best utilized in situations with geometric constraints that make them necessary (Memo to Designers 5-1).
- Hydraulics: Short seated abutment with longer bridge span will provide a wider creek channel width under the bridge which will lower the high water surface elevation and reduce future scour potential around bridge abutments.

The abutments are aligned parallel to the realigned Arcade Creek alignment and will be supported on a CIDH pile foundation. Bank protection in front of abutments is proposed to reduce future scour potential.

Railing and Barriers: A 5 foot sidewalk is proposed on the east side of the structure, which will require Type 26 barrier with tubular hand railing. A Type 732 barrier is proposed on the west side of the structure with tubular bicycle railing to reduce the risk of pedestrians or bicycles falling off the bridge.

Utilities:

The following public utilities have been identified near the structure:

- 6" gas: 10 feet east of centerline (PG&E).
- 16" gas: 11 feet west of centerline (PG&E).
- 12" gas: 13 feet west of centerline (PG&E).
- Overhead fiberoptic: 24 feet west of centerline (Integra Telecom)
- Overhead electric: 24 feet west of centerline; crossing Roseville Road south of bridge. (SMUD)

The overhead facilities will be impacted and utility pole relocation will be required. The majority of the existing gas lines will receive additional protection from roadway embankment or relocated to the existing bridge depending upon their locations relative to the new bridge. Potholing will be required in the location of the new bridge and creek crossing to verify the need for relocations.

Joints: The specified temperature range is 17° F to 114 °F resulting in movement rating of 0.5 inches. A Type A joint seal is proposed at each abutment.

Retaining Walls: Cast-in-place cantilevered concrete retaining walls will be provided for approach embankments at both ends of the structure.

**AESHETICS ISSUES**

Due to the location of the bridge, there will be no aesthetic features that need to be considered. Wingwalls will not be present due to the adjacent retaining walls, and slope paving will be replaced by the channel bank protection.

**FOUNDATION ISSUES**

A Preliminary Foundation Report (PFR) has been provided by Blackburn Consulting. Several foundation types have been examined for the abutments. Spread footings do not appear to be a preferable option because they would need to be placed below scour depths and their bearing capacity would be limited by the soil conditions. Driven concrete piles and steel pipe piles could experience very hard driving within dense soils which could result in damage to the piles. Steel H-piles are a possible alternative but pre-drilling may be required. Cast-in-drilled-hole (CIDH) piles are the final alternative and may require a minimum diameter of

24 inches. The preliminary analysis does not provide tip elevations since they depend on compressive, tensile, and lateral loadings which have not yet been defined.

### **SEISMIC ISSUES**

The bridge is classified as an Ordinary Standard Bridge; therefore, the seismic design criteria are contained in the Caltrans Seismic Design Criteria. A project specific seismic design criteria is not required. According to the Preliminary Foundation Report (PFR), the controlling fault for this project site is the Prairie Creek Spenceville-Deadman (PSD) Fault, which is located at a distance approximately 19.7 miles east of the proposed bridge site. This fault is considered "Normal" and has a 6.5 magnitude Maximum Credible Event (MCE). The "Peak Bedrock Acceleration" (PBA) at the site is estimated to be 0.15g. The PFR recommends the standard Acceleration Response Spectra (ARS) curve in Appendix B of the Caltrans Seismic Design Criteria with Soil Type D, PBA of 0.20g and MCE of 6.5. Increases in spectral accelerations to account for "near field" and increases to PBA due to fault type do not apply to this site. According to the PFR, the overall potential for seismically induced hazards, such as liquefaction, lateral spreading, densification, etc. are considered low and are not expected to be of substantial concern.

### **MAINTENANCE ISSUES**

Type A joint seals will be provided at the abutments.

The bridge will be supported on bearing pads at the abutments.

### **CONSTRUCTION ISSUES**

The proposed bridge will be constructed in the same location as the existing bridge. The existing bridge will be removed prior to the construction of the proposed bridge. The terrain at the project location is level, and the roadway alignment is straight.

The Roseville Road bridge currently supports 2 traffic lanes. Traffic will be detoured for construction and the road will be closed. Therefore, time of construction is important to limit the duration of road closure.

Coordination with utilities will be required during construction. There are 3 PG&E gas lines, overhead fiberoptic and electric lines, a Telecom communications line, and a 36" sewer pipe crossing under the east side of the bridge.

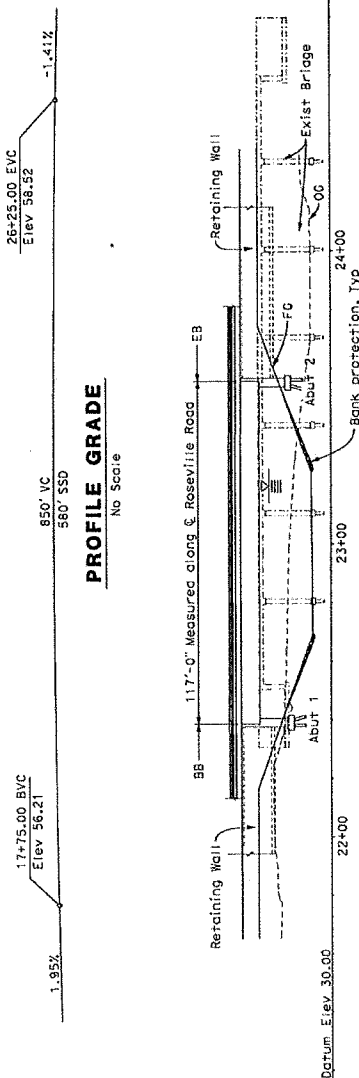
### **TYPE SELECTION RECOMMENDATION SUMMARY**

The recommended structure type is a precast prestressed concrete I-girder. The single-span bridge will be supported by short seat type abutments. A span length of 117'-0" and width of 45'-10" will be required. The foundations for both abutments will consist of footings supported by cast-in-drilled-hole (CIDH) concrete piles. These recommendations will be discussed in more detail at the Type Selection Review Meeting.

### **APPENDIXES**

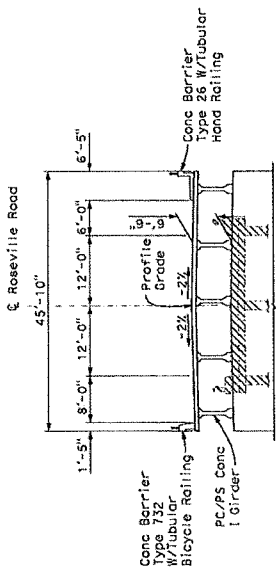
- **Appendix A – General Plan Drawing**
- **Appendix B – General Plan Estimate**
- **Appendix C – Type Selection Memorandum Summary**

**Appendix A:  
General Plan**



100yr. WSE 48.80'(NAVD88)  
200yr. WSE 50.70'(NAVD88)

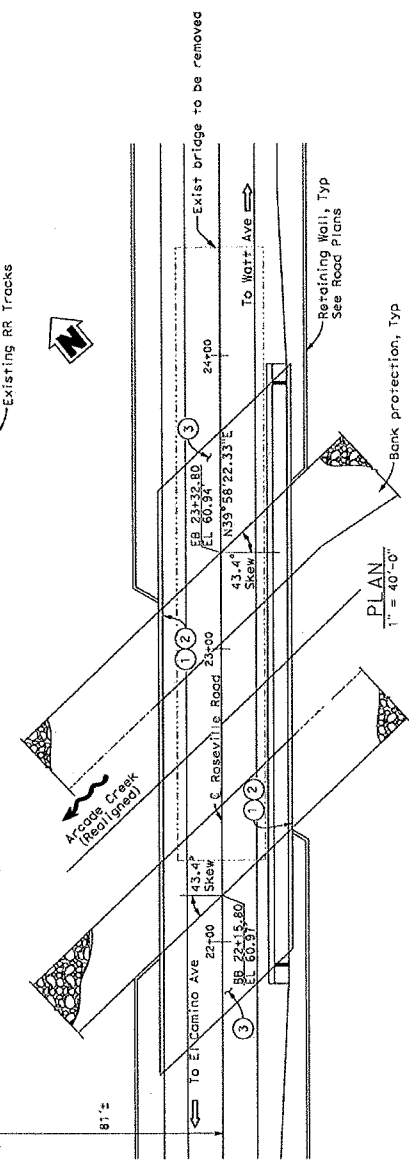
**ELEVATION**  
1" = 40'-0"



- LEGEND:**
- ① Paint "Roseville Road Bridge"
  - ② Paint "Br. No. 2400554"
  - ③ Structure Approach Type N (30S)

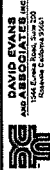
**Vehicular Traffic**

1. New alignment. No traffic at the site.
2. X. Traffic will be detoured away from the site.
3. Traffic will be carried on the structure.
4. Stage construction will/will not be required.
5. Traffic will pass under the structure on \_\_\_\_\_



REVISIONS		BENCH MARK		FIELD BOOK		SCALE		CHECKED BY:		DATE	
NO.	DESCRIPTION	DATE	BY	DESCRIPTION	NOV.	MARKZ	VERT.	DATE	DATE	DATE	R.C.E.

		<b>DAVID EVANS INC.</b> 1044 EL CAMINO AVE., SUITE 200 RICHFORD, CALIFORNIA 95671 (916) 875-9000	
<b>CITY OF SACRAMENTO</b> DEPARTMENT OF TRANSPORTATION			
DESIGNED BY: _____ DATE: _____		CHECKED BY: _____ DATE: _____	
DRAWN BY: _____ DATE: _____		R.C.E. _____	

<b>REPLACEMENT PROJECT FOR</b> <b>ROSEVILLE ROAD BRIDGE (Br. No. 2400554)</b> <b>BRIDGE REPLACEMENT (CHANNEL REALIGNED)</b> <b>GENERAL PLAN</b>			
SHEET 00 P: 1150968300			

Appendix B:  
General Plan Estimate

Revised - December 3, 2007

RCVD BY: \_\_\_\_\_

IN EST: \_\_\_\_\_

OUT EST: \_\_\_\_\_

BRIDGE: Roseville Road Bridge

BR. No.: \_\_\_\_\_

DISTRICT: \_\_\_\_\_

TYPE: PC/PS Concrete I-Girder

RTE: \_\_\_\_\_

CU: \_\_\_\_\_

CO: \_\_\_\_\_

EA: \_\_\_\_\_

PM: \_\_\_\_\_

LENGTH: 117.00      WIDTH: 45.83      AREA (SF)= 5,362

DESIGN SECTION: \_\_\_\_\_ DEA \_\_\_\_\_

# OF STRUCTURES IN PROJECT : 01      EST. NO. \_\_\_\_\_

PRICES BY : DS      COST INDEX: \_\_\_\_\_

PRICES CHECKED BY : \_\_\_\_\_      DATE: 1/6/2012

QUANTITIES BY: DS      DATE: 1/6/2012

	CONTRACT ITEMS	TYPE	UNIT	QUANTITY	PRICE	AMOUNT
1	BRIDGE REMOVAL		LS	1	\$115,000.00	\$115,000.00
2	STRUCTURE EXCAVATION (BRIDGE)		CY	200	\$75.00	\$15,000.00
3	STRUCTURE BACKFILL (BRIDGE)		CY	218	\$70.00	\$15,260.00
4	24" CAST-IN-DRILLED-HOLE CONCRETE PILING		LF	1,200	\$130.00	\$156,000.00
5	STRUCTURAL CONCRETE, BRIDGE		CY	250	\$700.00	\$175,000.00
6	STRUCTURAL CONCRETE, BRIDGE FOOTING		CY	90	\$350.00	\$31,500.00
7	STRUCTURAL CONCRETE, APPROACH SLAB		CY	100	\$590.00	\$59,000.00
8	ERECT PRECAST CONCRETE GIRDER		EA	5	\$2,600.00	\$13,000.00
9	FURNISH PC PS CONCRETE GIRDER		EA	5	\$26,000.00	\$130,000.00
10	BAR REINFORCING STEEL (BRIDGE)		LB	52,335	\$1.00	\$52,335.00
11	CONCRETE BARRIER TYPE 26		LF	177	\$240.0	\$42,480.00
12	CONCRETE BARRIER TYPE 732		LF	177	\$80.00	\$14,160.00
13	TUBULAR HANDRILING		LF	354	\$70.00	\$24,780.00
14	ROCK SLOPE PROTECTION (1/2 TON)		CY	370	\$100.00	\$37,000.00
15						
16						
17						
18						

SUBTOTAL	\$880,515
TIME RELATED OVERHEAD	\$88,052
MOBILIZATION (@ 10%)	\$107,619
SUBTOTAL BRIDGE ITEMS	\$1,076,185
CONTINGENCIES (@ 20%)	\$215,237
BRIDGE TOTAL COST	\$1,291,422
COST PER SQ. FOOT	\$240.84
BRIDGE REMOVAL (CONTINGENCIES INCL.)	
WORK BY RAILROAD OR UTILITY FORCES	
GRAND TOTAL	\$1,291,422
BUDGET ESTIMATE AS OF	\$1,291,000

**ROUTING**

1. DES SECTION
2. OFFICE OF BRIDGE DESIGN - NORTH
3. OFFICE OF BRIDGE DESIGN - CENTRAL
4. OFFICE OF BRIDGE DESIGN - SOUTH
5. OFFICE OF BRIDGE DESIGN - WEST
6. OFFICE OF BRIDGE DESIGN SOUTHERN CALIFORNIA

COMMENTS: \_\_\_\_\_

**Escalated Budget Estimate to Midpoint of Construction \***

Escalation Rate per Year

5.0%

Years Beyond Midpoint	Escalated Budget Est.
1	\$1,356,000
2	\$1,424,000
3	\$1,495,000

Years Beyond Midpoint	Escalated Budget Est.
4	\$1,570,000
5	\$1,649,000

\* Escalated budget estimate is provided for information only, actual construction costs may vary. Escalated budget estimates provided do not replace Departmental policy to update cost estimates annually.

Appendix C:  
Type Selection Summary Memorandum

Prepared for the  
**California Department of Transportation**  
**STRUCTURE TYPE SELECTION MEMO**  
 by David Evans and Associates

PROJECT IDENTIFICATION						DATE	24-Jan-12
DIST	CO	RTE	PM	CU	EA	DESIGN GROUP	
3	SAC					DEA	
BRIDGE NAME(S)					CONSTRUCTION COST - \$		DESIGN HRS REQ'D
Roseville Road Bridge					\$1,291,000		

**Structure Types Considered:**

Cast-in-place prestressed concrete box girder, precast prestressed I-girder, composite welded steel plate girder.

**Recommended Structure Type:**

A single span precast prestressed concrete I- girder is recommended based on the fast construction time which is an important factor to limit the duration of road closure.

**Structure Design Issues:**

The abutments are short seated and are supported by a pile foundation  
 Type N (30S) structure approach slabs are provided at both abutments.

**Foundation Issues:**

The abutments will be supported by CIDH piles

**Seismic Issues:**

The bridge is classified as an 'Ordinary Standard Structure'; seismic hazards are considered low.  
 The Geotechnical Design Report recommends a standard acceleration curve taken from Appendix B of the Caltrans Seismic Design Criteria with Soil Type D, PBA of 0.20g and a MCE of magnitude 6.5.

**Maintenance Issues:**

The bridge will have Type A joint seals and will be supported on bearing pads at the abutments.

**Construction Issues:**

The proposed bridge will be constructed in the same location as the existing bridge. The existing bridge will be removed prior to the construction of the new bridge.  
 The Roseville Road bridge currently supports 2 traffic lanes. Traffic will be detoured for construction and the road will be closed.

(1) DESIGN ENGN	_____	PROJECT ENGINEER
(2) BR DES SUPR	_____	PROJECT ARCHITECT
(3) BR ARCH PLNR	_____	
(4) CHIEF STRUCT DES	_____	
(5) FILE	_____	



# Attachment F

## Initial Study/Mitigated Negative Declaration

Note: Due to the length of the report, it has been excluded from hard copy. Think green!!

If you wish to review the document, you can view it or print it from the disk located at the end of this report or contact John Roccanova to have a hard copy sent to you via US Mail.

If you have problems with the electronic file, please contact John Roccanova (916)677-2010 or [joro@deainc.com](mailto:joro@deainc.com).

# PROJECT: Roseville Road Bridge Replacement (T15068500)

Replance In Kind Alternative

PRELIMINARY ESTIMATE BY: J. Roccanova (David Evans & Associates)

6/15/2012

Cost Estimate includes:

- \* Removal of existing bridge and construction of new bridge
- \* Constructio of new raised roadway AC, AB, Fill Material, Signing & Striping
- \* Construction of retaining walls with concrete barriers
- \* Construction of storm drain system
- \* Road closure detour
- \* Environmental Mitigation

Assumptions:

- \* Grading within UPRR ROW is avoided
- \* Pavement section of 6" AC over 12" AB.
- \* Curb ramps to be constructed at all corners within project limits.
- \* No streetlights are anticipated.
- \* Existing gas lines can be protected in place.

NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL
<b>Roadway Construction Items</b>					
1	Field Office	1	LS	\$ 25,000	\$ 25,000
2	Clearing and Grubbing	1	LS	\$ 10,000	\$ 10,000
3	Imported Borrow - roadway only	3,325	CY	\$ 15	\$ 49,875
4					\$ -
5	Roadway Excavation	930	CY	\$ 10	\$ 9,300
6	AC (6")	1,185	TON	\$ 80	\$ 94,800
7	AB (12")	1,210	CY	\$ 40	\$ 48,400
8	MBGR	250	LF	\$ 18	\$ 4,500
9	Terminal System	2	EA	\$ 2,300	\$ 4,600
10	MBGR End Anchor	2	EA	\$ 500	\$ 1,000
11	Ret. Wall	8,790	SQFT	\$ 40	\$ 351,600
12	Striping	6,000	LF	\$ 1	\$ 6,000
13	Signing	8	EA	\$ 450	\$ 3,600
14	Curb, Gutter Sidewalk	50	CY	\$ 350	\$ 17,500
15	Street Sweeping	1	LS	\$ 5,000	\$ 5,000
16	Temp Fence (CL-6)	200	LF	\$ 5	\$ 1,000
17	Rain Event Action Plan	2	EA	\$ 500	\$ 1,000
18	Storm Water Annual Report	1	EA	\$ 2,000	\$ 2,000
19	Storm Water Sampling & Analy Day	5	LS	\$ 1,000	\$ 5,000
	Construction Site Management	1	LS	\$ 15,000	
20	Erosion Control (Hydro + Bond Matrix)	55,000	SQFT	\$ 1	\$ 55,000
21	Temp Fiber Roll	4,400	LF	\$ 2	\$ 8,800
22	Temp Silt Fence	2,200	LF	\$ 2	\$ 4,400
23	Temp Conc Washout	2	EA	\$ 1,400	\$ 2,800
24	Temp Const Entrance	2	EA	\$ 3,000	\$ 6,000
25	Temp Fence (Type ESA)	2,200	LF	\$ 3	\$ 5,500
26	Minor Items (10% of subtotal)		LS		\$ 72,268
27	Drainage (10% of subtotal)		LS		\$ 72,268
	<b>Roadway Construction Item Subtotal</b>				<b>\$ 867,210</b>
<b>Bridge Construction Items</b>					
28	Deck Area	11,750	SQFT	\$ 200	\$ 2,350,000
29	Barrier (Type 26)	320	LF	\$ 180	\$ 57,600
30	Barrier (Type 736)	320	LF	\$ 85	\$ 27,200
31	Tubular Handrailing	640	LF	\$ 85	\$ 54,400
32	Remove Bridge	6,300	SQFT	\$ 18	\$ 115,019
33	RSP (1/2 TON)	370	CY	\$ 100	\$ 37,037
34	Backing (Class 1)	2,391	CY	\$ 130	\$ 310,830

<b>Bridge Construction Item Subtotal</b>				<b>\$</b>	<b>2,952,086</b>
<b>Traffic Handling Items</b>					
35	Temp. traffic stripe	5,000	LF	\$ 1	\$ 2,500
36	Type III Barricade	150	LF	\$ 45	\$ 6,750
37	Construction Area Signs	50	# Posts	\$ 200	\$ 10,000
38	Traffic Control System	20	WD	\$ 2,000	\$ 40,000
39	Portable Changeable Message Sign	4	EA	\$ 7,500	\$ 30,000
<b>Traffic Handling Subtotal</b>				<b>\$</b>	<b>89,250</b>

**Estimated Construction Cost \$3,909,000**

Environmental Mitigation	LS	\$150,000
Mobilization (10%)	10%	\$391,000
Road Closure Efficiency Reduct	-10%	-\$391,000
Construction Contingency	25%	\$977,000

**ESTIMATED CONSTRUCTION TOTAL \$5,036,000**

	Replace In Kind numbers	Project Delivery %
Consultant Contract (PE, ROW, Env, ROW, PS&E)	\$1,307,863	26.0%
Pre-Design / Environmental (Staff Costs)	\$119,000	2.4%
Design (Staff Costs)	\$159,000	3.2%
Right of Way Engineering (Staff Costs)	\$10,000	0.2%
Construction Management (Staff Costs)	\$125,000	2.5%
Construction Staking (Staff Costs)	\$130,000	2.6%
Inspection (Staff Costs)	\$360,000	7.1%
Material Testing (Staff Costs)	\$75,000	1.5%
<b>ESTIMATED LABOR TOTAL</b>	<b>\$978,000</b>	<b>19.4%</b>

**Right of Way Acquisition (Easement) \$3,500**

**ESTIMATED PROJECT TOTAL \$6,017,500**

**PROJECT: Roseville Road Bridge Replacement (T15068500)**

Creek Re-Alignment Alternative

PRELIMINARY ESTIMATE BY: J. Roccanova (David Evans & Associates)

6/15/2012

Cost Estimate includes:

- \* Removal of existing bridge and construction of new bridge
- \* Realignment of Arcade Creek
- \* Constructio of new raised roadway AC, AB, Fill Material, Signing & Striping
- \* Construction of retaining walls with concrete barriers
- \* Construction of realigned SACSD above ground 36" SS
- \* Construction of storm drain system
- \* Road closure detour
- \* Environmental Mitigation

Assumptions:

- \* Grading within UPRR ROW is avoided
- \* Pavement section of 6" AC over 12" AB.
- \* Curb ramps to be constructed at all corners within project limits.
- \* No streetlights are anticipated.
- \* Existing gas lines can be protected in place.

NO.	DESCRIPTION	QUANTITY	UNITS	UNIT COST	TOTAL
<b>Roadway Construction Items</b>					
1	Field Office	1	LS	25,000	\$ 25,000
2	Clearing and Grubbing	1	LS	10,000	\$ 10,000
3	Imported Borrow - roadway only	5,428	CY	15	\$ 81,420
4	Channel Excavation - Arcade Creek	1,100	CY	8	\$ 8,800
5	Roadway Excavation	1,200	CY	10	\$ 12,000
6	AC (6")	2,050	TON	80	\$ 164,000
7	AB (12")	1,550	CY	40	\$ 62,000
8	MBGR	250	LF	18	\$ 4,500
9	Terminal System	2	EA	2,300	\$ 4,600
10	MBGR End Anchor	2	EA	500	\$ 1,000
11	Ret. Wall	10,600	SQFT	40	\$ 424,000
12	Striping	16,000	LF	1	\$ 16,000
13	Signing	8	EA	450	\$ 3,600
14	Curb, Gutter Sidewalk		CY	350	\$ -
15	Street Sweeping	1	LS	5,000	\$ 5,000
16	Temp Fence (CL-6)	700	LF	5	\$ 3,500
17	Exist 36" SS Structural Support	1	LS	100,000	\$ 100,000
18	Replace 36" SS	120	LF	200	\$ 24,000
	Junction Structure	2	EA	15,000	\$ 30,000
19	90" SSMH	1	EA	4,000	\$ 4,000
20	Rain Event Action Plan	2	EA	500	\$ 1,000
21	Storm Water Annual Report	1	EA	2,000	\$ 2,000
22	Storm Water Sampling & Analy Day	5	LS	1,000	\$ 5,000
23	Construction Site Management	1	LS	15,000	\$ 15,000
24	Erosion Control (Hydro + Bond Matrix)	130,000	SQFT	1	\$ 130,000
25	Temp Fiber Roll	8,200	LF	2	\$ 16,400
26	Temp Silt Fence	2,800	LF	2	\$ 5,600
27	Temp Conc Washout	2	EA	1,400	\$ 2,800
28	Temp Const Entrance	2	EA	3,000	\$ 6,000
29	Temp Fence (Type ESA)	3,760	LF	3	\$ 9,400
30	Minor Items (10% of subtotal)		LS		\$ 117,662
31	Drainage (10% of subtotal)		LS		\$ 117,662
	<b>Roadway Construction Item Subtotal</b>				<b>\$ 1,411,944</b>
<b>Bridge Construction Items</b>					

32	Bridge Removal	1	LS	115,000	\$	115,000
33	Structure Excavation (Bridge)	200	CY	75	\$	15,000
34	Structure Backfill (Bridge)	218	CY	70	\$	15,260
35	24" Cast-in-Drilled-Hole Conc Piling	1,200	LF	130	\$	156,000
36	Structural Concrete (Bridge)	250	CY	700	\$	175,000
37	Structural Concrete (Bridge Footing)	90	CY	350	\$	31,500
38	Structural Concrete (Approach Slab)	100	CY	590	\$	59,000
39	Erect Precast Concrete Girders	5	EA	2,600	\$	13,000
40	Furnich PC PS Conc Girder	5	EA	26,000	\$	130,000
41	Bar Reinforcing Steel (Bridge)	52,335	LB	1	\$	52,335
42	Concrete Barrier Type 26	177	LF	240	\$	42,480
43	Concrete Barrier Type 732	177	LF	80	\$	14,160
44	Tubular Handrailing	354	LF	70	\$	24,780
45	Rock Slope Protection (1/2 Ton)	370	CY	100	\$	37,000
<b>Bridge Construction Item Subtotal</b>					<b>\$</b>	<b>880,515</b>
<b>Traffic Handling Items</b>						
46	Temp. traffic stripe	5,000	LF	1	\$	2,500
47	Type III Barricade	150	LF	45	\$	6,750
48	Construction Area Signs	50	# Posts	200	\$	10,000
49	Traffic Control System	20	WD	2,000	\$	40,000
50	Portable Changeable Message Sign	4	EA	7,500	\$	30,000
<b>Traffic Handling Subtotal</b>					<b>\$</b>	<b>89,250</b>

**Estimated Construction Cost \$2,382,000**

Environmental Mitigation	LS	\$700,000
Mobilization (10%)	10%	\$238,000
Road Closure Efficiency Reduct	-10%	-\$238,000
Construction Contingency	25%	\$596,000

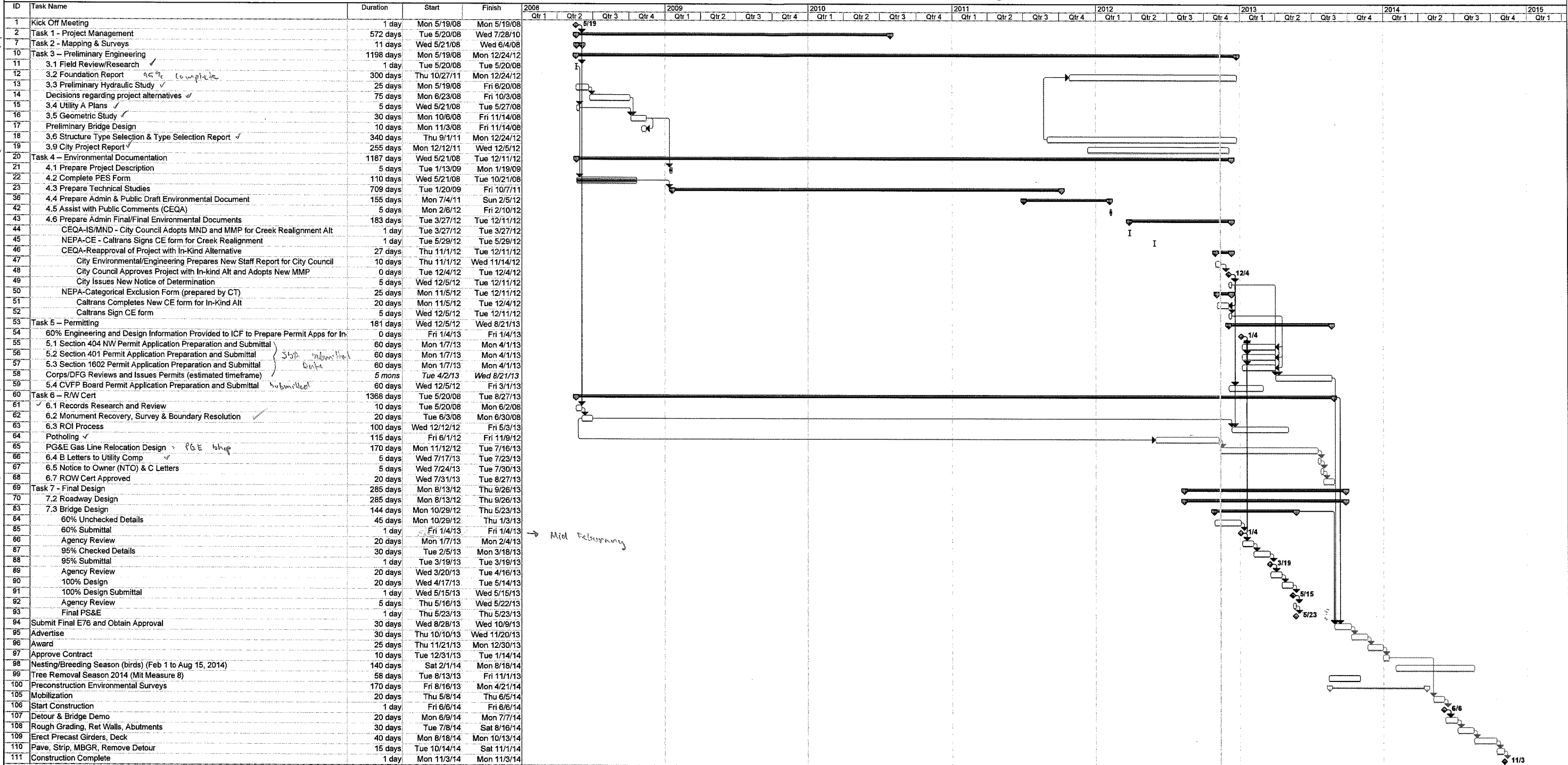
**ESTIMATED CONSTRUCTION TOTAL \$3,678,000**

	Creek Re-alignment numbers	Project Delivery %
Consultant Contract (PE, ROW, Env, ROW, PS&E)	\$1,147,663	31.2%
Pre-Design / Environmental (Staff Costs)	\$124,500	3.4%
Design (Staff Costs)	\$185,500	5.0%
Right of Way Engineering (Staff Costs)	\$10,000	0.3%
Construction Management (Staff Costs)	\$91,250	2.5%
Construction Staking (Staff Costs)	\$75,000	2.0%
Inspection (Staff Costs)	\$141,250	3.8%
Material Testing (Staff Costs)	\$37,500	1.0%
<b>ESTIMATED LABOR TOTAL</b>	<b>\$665,000</b>	<b>18.1%</b>

**Right of Way Acquisition (Easement) \$3,500**

**ESTIMATED PROJECT TOTAL \$4,346,500**

# Roseville Road Bridge Replacement Project

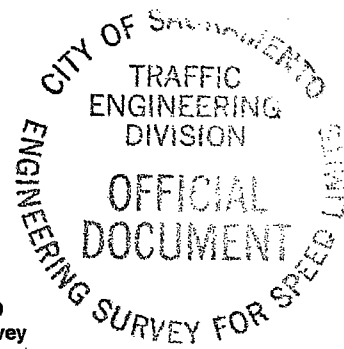


\* E76 for Row

Mid February

Critical path tasks are indicated in red.  
Mon 11/12/12

Project Development Schedule



**City of Sacramento  
Engineering and Traffic Survey**

Speed Zone: <u>ROSEVILLE ROAD</u>	between <u>LONGVIEW DRIVE</u>	and <u>CONNIE DRIVE</u>
Survey Location: <u>BETWEEN CONNIE DRIVE &amp; INTERSTATE 80</u>	Average Daily Traffic (ADT): <u>14,791</u>	
Survey Date: <u>2/1/2011</u>	Start Time: <u>14:05</u>	End Time: <u>14:35</u>
Expiration Date: <u>2/1/2018</u>	Observer: <u>Tara Barretto</u>	Radar Serial No. <u>DS 13639</u>

Posted Speed Limit (mph): <u>50</u>	85 <sup>th</sup> Speed (mph): <u>50.7</u>	Avg. Speed (mph): <u>46.8</u>	Weather: <u>Dry</u>
-------------------------------------	---	-------------------------------	---------------------

**SPOT SPEED DATA**

**LAND USE AND ROADWAY CONDITIONS**

Speed mph	No. of Vehicles	Percent of Total	Cumulative Percentage
<=15	0	0.00%	0.00%
16	0	0.00%	0.00%
17	0	0.00%	0.00%
18	0	0.00%	0.00%
19	0	0.00%	0.00%
20	0	0.00%	0.00%
21	0	0.00%	0.00%
22	0	0.00%	0.00%
23	0	0.00%	0.00%
24	0	0.00%	0.00%
25	0	0.00%	0.00%
26	0	0.00%	0.00%
27	0	0.00%	0.00%
28	0	0.00%	0.00%
29	0	0.00%	0.00%
30	0	0.00%	0.00%
31	0	0.00%	0.00%
32	0	0.00%	0.00%
33	0	0.00%	0.00%
34	0	0.00%	0.00%
35	0	0.00%	0.00%
36	1	0.98%	0.98%
37	5	4.90%	5.88%
38	5	4.90%	10.78%
39	7	6.86%	17.65%
40	4	3.92%	21.57%
41	2	1.96%	23.53%
42	1	0.98%	24.51%
43	2	1.96%	26.47%
44	3	2.94%	29.41%
45	2	1.96%	31.37%
46	3	2.94%	34.31%
47	5	4.90%	39.22%
48	7	6.86%	46.08%
49	13	12.75%	58.82%
50	18	17.65%	76.47%
51	12	11.76%	88.24%
52	3	2.94%	91.18%
53	3	2.94%	94.12%
54	2	1.96%	96.08%
55	4	3.92%	100.00%
56	0	0.00%	100.00%
57	0	0.00%	100.00%
58	0	0.00%	100.00%
59	0	0.00%	100.00%
>=60	0	0.00%	100.00%
<b>Total</b>	<b>102</b>	<b>100.00%</b>	

**Predominant Land Use**

Single Family Residential       Multi-Family Residential       Commercial

Office       Industrial       Park

School

Notes:

**Roadway Characteristics**

On Street Parking: No Parking

Notes:

**Roadway Geometry:**

Segment Length (ft): 8,010      Width (ft): 30

No. of Lanes: 2 (1 N/B, 1 S/B)      Bikeways: None

Alignment: Straightaway      Visibility: Fair

Median and/or Center Line Treatment: Broken Yellow

Notes:

**Traffic Controls:**  
(Location of Signals, Stop Signs, and Roundabouts)

SIGNAL @ LONGVIEW DR, LIGHT RAIL ACCRSS ROAD; STOP SIGN @ CONNIE DR.

**Traffic Calming:**  
(Location of Traffic Calming Devices)

Collision History		
Year	Total No. of Collisions	Collisions due to Speeding
2009	8	3
2010	6	3

Signature: [Signature]

**Certifying Engineer**

**Justification of Recommended Speed Limit:**  
Since the 85th percentile speed as indicated by an E&TS is 50.7 mph, the posted speed limit for this speed zone should be re-established at 50 mph.

# Project Budget Plan

Project ID #: T15068500

Project ID Title: Roseville Road Bridge Replacement

Activity ID	Activity Description	Total Labor Budget (502080, 502090, 502120)	Consultant Budget (431020)	Contract Budget (472010)	Phase Contingency (461090)	City Forces Streets (443010)	Gen Svcs Real Estate Services (433060)	ROW Acquisition (471010)	Permits and Fees (446020)	Postage (461010) and Printing (455010)	Central Services (501010)	PAAF TOTAL	Funding Source*	Begin Date	End Date	Predecessor Activity ID	
<b>Planning</b>																	
100	Planning	\$150,000	\$722,500							X		\$872,500					
105	Project Report	\$0										\$0					
107	Environmental	\$0										\$0					
108	Planning Public Relations	\$0	\$0									\$0					
	<b>TOTAL</b>	<b>\$150,000</b>	<b>\$722,500</b>		<b>\$0</b>							<b>\$872,500</b>					
<b>Design</b>																	
200	Design Management	\$108,000	\$614,314		\$0					X		\$722,314					
202	Survey	\$0										\$0					
203	Base Maps	\$0										\$0					
204	30% Design	\$0										\$0					
205	60% Design	\$0										\$0					
206	90% Design	\$0										\$0					
207	Final Design	\$0										\$0					
211	Design Public Relations	\$0	\$0									\$0					
212	Coop Agreement	\$0										\$0					
213	Design Utility Relocation	\$0										\$0					
218	Permits and Fees	\$0						X				\$0					
	<b>TOTAL</b>	<b>\$108,000</b>	<b>\$614,314</b>		<b>\$0</b>							<b>\$722,314</b>					
<b>ROW</b>																	
300	ROW Management	\$40,000	\$0		\$0					X		\$40,000					
302	Title Reports	\$0										\$0					
304	Plats and Legal Descriptions	\$0										\$0					
305	Purchase Contract							\$0				\$0					
307	Appraisals											\$0					
308	Negotiations											\$0					
309	Tenant Relocations											\$0					
310	Public Hearings and Legal Proceedings											\$0					
	<b>TOTAL</b>	<b>\$40,000</b>	<b>\$0</b>		<b>\$0</b>							<b>\$40,000</b>					
<b>Construction</b>																	
402	City Forces (Construction)				\$0							\$0					
403	City Provided Materials			\$0								\$0					
404	Construction Contract			\$0	\$0							\$0					
405	Utility Relocation Contracts			\$0								\$0					
406	Environmental Mitigation Contracts			\$0								\$0					
407	Other Construction Contracts			\$0								\$0					
	<b>TOTAL</b>			<b>\$0</b>	<b>\$0</b>							<b>\$0</b>					
<b>Construction Management</b>																	
500	Construction Management	\$0	\$0		\$0					X		\$0					
501	Inspection	\$0	\$0									\$0					
502	Material Testing	\$0	\$0									\$0					
503	Staking	\$0										\$0					
504	Warranty Inspection	\$0										\$0					
505	Labor Compliance	\$0										\$0					
506	Claims Resolution	\$0	\$0									\$0					
	<b>TOTAL</b>	<b>\$0</b>	<b>\$0</b>		<b>\$0</b>							<b>\$0</b>					
<b>Zero Budget Load Required</b>																	
800	Central Services Mail	\$295,000	\$1,336,814	\$0	\$0						X	\$0					
	<b>GRAND TOTAL</b>	<b>\$295,000</b>	<b>\$1,336,814</b>	<b>\$0</b>	<b>\$0</b>							<b>\$1,634,814</b>					

Supervisor Approval: \_\_\_\_\_ Date: \_\_\_\_\_

Section Manager Approval: \_\_\_\_\_ Date: 1/8/13



Project Approval and Authorization Form  
Roseville Road Bridge Replacement Project (PN:T15068500)

**Approved Scope:**

Remove/Replace the existing Roseville Road Bridge over Arcade Creek.

**Location:**

Roseville Road crossing of Arcade creek between Longview Drive and Connie Way.

**Approved Schedule, Cost, and Budget:**

Phase	Begin Date	End Date	Cost	Approved Budget
Consultant Contract (PE, Env, ROW, PS&E)	4/22/2008		\$1,336,814	\$1,336,814
Pre-Design (Staff Costs)	4/22/2008	12/19/2012	\$150,000	\$150,000
Design (Staff Costs)	12/19/2012	12/17/2013	\$108,000	\$108,000
Right of Way (Staff Costs)	12/19/2012	12/17/2013	\$40,000	\$40,000
Construction Management	12/17/2013	1/15/2015	\$125,000	
	12/17/2013	11/3/2014	\$80,000	
Construction Staking	12/17/2013	11/3/2014	\$440,000	\$720,000
Construction Inspection	12/17/2013	11/3/2014	\$440,000	
Material Testing	12/17/2013	11/3/2014	\$75,000	
Construction	12/17/2013	11/3/2014	\$4,059,000	
Construction Contingency	12/17/2013	11/3/2014	\$977,000	\$5,036,000
<b>TOTAL</b>			<b>\$7,390,814</b>	<b>\$7,390,814</b>

Approvals

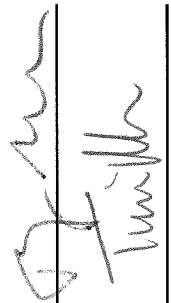
Jon Blank

(Supervising Engineer)

  
Date 1/6/13

Ryan Moore

(Supervising Engineer)

  
Date 1/8/13


Tim Mar

(Supervising Engineer)

  
Date 1/14/13

Hector Barron

(City Traffic Engineer)

  
Date 1-16-13

Nicholas Theocharides

(Engineering Manager)

  
Date 1/25/13

APPROVED AMENDMENT WITH JUSTIFICATION IS REQUIRED IF ANY OF THE FOLLOWING HAS CHANGED:

Project Scope, begin or end date of project phases, and cost of any phases that would change the total project cost.

## FUNDNIG DETAIL TABLE

PHASE	TOTAL COST	INDIRECT COST	OTHER NON-PARTICIPATING COST	LOCAL MATCH FUNDS	TOTAL LOCAL FUNDS	STATE FUNDS	FEDERAL FUNDS
Preliminary Engineering / Environmental	\$1,336,814	\$0	\$0	\$153,333	\$153,333	\$0	\$1,183,481
City Support	\$258,000	\$147,060	\$0	\$12,725	\$159,785	\$0	\$98,215
Right of Way	\$40,000	\$0	\$0	\$4,588	\$4,588	\$0	\$35,412
Utilities (w/ 25% Contingency)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Construction (w/ 25% Contingency)	\$5,036,000	\$0	\$0	\$577,629	\$577,629		\$4,458,371
Construction Management (City Forces)	\$720,000	\$410,400	\$0	\$35,511	\$445,911	\$0	\$274,089
<b>TOTAL</b>	<b>\$7,390,814</b>	<b>\$557,460</b>	<b>\$0</b>	<b>\$783,786</b>	<b>\$1,341,246</b>	<b>\$0</b>	<b>\$6,049,568</b>

**Project Report Quality Control Checklist**

Roseville Road Bridge Replacement Project (T15068500)

Project Name & No.

Prepared By Matthew Johns Date 12-20-12

Project Manager

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Senior Engineer

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Supervising Engineer

FUNDING	YES	NO	N/A	INITIAL
1. Does the project have an established CIP No.?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
2. Does the project have State and/or Federal funds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
3. If project has State/Federal funds, does City have Authorization to Proceed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
4. Is there a deadline to use project funds?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
5. If project has funding from SHRA, does City have an executed IPA?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>  </u>
6. Is the project considered fully funded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
7. If project is not fully funded, scope of work has been reduced/modified?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>  </u>
8. Did project sponsors review and consent to reduced/modified scope of work?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>  </u>
9. Are there additional funds coming to the project at later date?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>

SCOPE AND ESTIMATE	YES	NO	N/A	INITIAL
1. Has typical street section been approved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>A</u>
2. Design Variances approved?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>R</u>
3. Is project consistent with a Master Plan or Urban Design Plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>B</u>
4. Is project consistent with approved PSR or a Technical Study?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>A</u>
5. Have as-built plans been reviewed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>A</u>
6. Have field visit with measurements and pictures been taken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>A</u>
7. Does the project need upgraded curb ramps?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>A</u>
8. Is there an existing drainage system?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>S</u>
9. Is there an existing sewer and or water system?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>S</u>
10. Pre-A Utility letter sent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>A</u>
11. Does the project require new signal coordination?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>A</u>
12. Has electrical group provided cost estimates?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>A</u>
13. Has City Real Estate provided right-of-way cost estimates?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>P</u>
14. Have estimates been reviewed by F&PD Senior Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>A</u>

SCHEDULE	YES	NO	N/A	INITIAL
1. A critical path method schedule in Microsoft Project format is completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>W</u>
2. Project schedule has been reviewed by Design Supervising Engineer?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>A</u>

<b>COORDINATION</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<b>INITIAL</b>
1. Did City Utilities review project plans/scope?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
2. Did City Utilities agree to reimbursement/cost sharing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
3. Did City Environmental Services review project plans/scope?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
4. Did City Electrical group review project plans/scope?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>  </u>
5. Did DOT ADA coordinator review project plans/scope?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<u>  </u>
6. Did City Traffic Engineering review project plans/scope?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
7. Did Street Maintenance review project plans/scope?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
8. Did Bike and Pedestrian Coordinator review project plans/scope?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
9. Did City Right of Way review project plans/scope?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
10. Was relevant Councilmember(s) office briefed on the scope of work?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>  </u>

<b>FINAL REVIEW</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<b>INITIAL</b>
1. Did Design PM review Project Report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
2. Did Traffic Engineering review Project Report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>
3. Was there a briefing meeting for Design and Traffic?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>  </u>