

WANGER JONES HELSLEY PC
ATTORNEYS

OLIVER W. WANGER
TIMOTHY JONES*
MICHAEL S. HELSLEY
PATRICK D. TOOLE
SCOTT D. LAIRD
JOHN P. KINSEY
KURT F. VOTE
TROY T. EWELL
JAY A. CHRISTOFFERSON
MARISA L. BALCH
PETER M. JONES**
STEVEN M. CRASS**
AMANDA G. HEBESHA***
JENA M. HARLOS****
MICAELA L. NEAL
REBECCA S. MADDOX
NICOLAS R. CARDELLA
ERIN T. HUNTINGTON
STEVEN K. VOTE
JENNIFER F. DELAROSA
ROCCO E. DICICCO
GIULIO A. SANCHEZ
YLAN H. NGUYEN

265 E. RIVER PARK CIRCLE, SUITE 310
FRESNO, CALIFORNIA 93720

MAILING ADDRESS
POST OFFICE BOX 28340
FRESNO, CALIFORNIA 93729

TELEPHONE
(559) 233-4800

FAX
(559) 233-9330



OFFICE ADMINISTRATOR
LYNN M. HOFFMAN

Writer's E-Mail Address:
jkinsey@wjhattorneys.com

Website:
www.wjhattorneys.com

* Also admitted in Washington
** Of Counsel
*** Of Counsel/Also admitted in
Idaho
**** Also admitted in Wisconsin

October 22, 2018

VIA EMAIL & UNITED STATES MAIL

Bernice E. Seidel
Clerk to the Board of Supervisors
COUNTY OF FRESNO
2281 Tulare Street, #301
Hall of Records
Fresno, CA 93721-2198

Marianne Mollring, Senior Planner
Development Services and Capital Projects Division
Department of Public Works & Planning
COUNTY OF FRESNO
2220 Tulare Street, Sixth Floor
Fresno, CA 93721

**Re: Initial Study Application No. 7359; General Plan
Amendment Application No. 552; and Amendment
Application No. 3852**

Dear Ms. Mollring:

My law firm represents many of the residents who live near the property located on North Grantland Avenue between North Parkway Drive and West Tenaya Avenue, Fresno County Assessor's Parcel No. 504-081-02S/03S (the "Subject Property"), including Gonzalo Arias, Mark Brooks, Joseph Day, and Elisa Bilios. On my clients' behalf, I am writing in response to the proposed Mitigated Negative Declaration for Initial Study Application No. 7359; General Plan Amendment Application No. 552; and Amendment Application No. 3852 for the Fresno Humane Animal Services project (collectively, the "Project").

I have also enclosed the comments of Smith Engineering and Management, which evaluate the near-term and cumulative traffic impacts of the Project. (See Exhibit "A.")

A. Introduction

The Project should be denied. The Project seeks to bring a land use that is commonplace in industrial areas to a residential neighborhood surrounded by single-family homes, churches, and an elementary school. The surrounding area sits on the boundary of the City and the County, and development has far outpaced infrastructure necessary to support the community. This is particularly true with local roadways, which currently experience gridlock and unsafe conditions during a.m. and p.m. peak hours. The use is also inconsistent with residential and school land uses, as it will result in adverse traffic, noise, odors, aesthetics, and public safety conditions to the area. Stated simply, the Project should be denied on its merits.

But even if this were not the case, the Initial Study/Mitigated Negative Declaration (“IS/MND”) prepared for the Project does not pass muster under the California Environmental Quality Act, Pub. Resources Code, § 21000, *et seq.* (“CEQA”). If the County intends to consider the Project for approval, it must overhaul the IS/MND and commit to binding mitigation and/or conditions of approval to ensure the Project would not adversely impact the surrounding community.

Indeed, on the present record, substantial evidence of a “fair argument” exists that the Project would result in significant environmental effects. This is based on expert opinion, such as the opinions related to traffic and transportation by Smith Engineering and Management, and fact, including the testimony and video/documentary evidence of the surrounding community. As a result of this evidence, the County cannot approve the Project based on the current environmental document.

In short, my clients respectfully request that the County decline to approve the Project.

B. The Project is Not Appropriate for this Neighborhood, and Should be Denied on the Merits

The Project is located on the boundary of the City and the County, and adjacent to State Route 99. Due to the varied nature of the agencies with jurisdiction over land use and roadway in the local area, local infrastructure has been developed in a manner that is haphazard. Put simply, infrastructure and services have not kept up with the needs of the local community, resulting in a lack of parks, gridlock on local roadways – particularly Grantland Avenue, Parkway Drive, and Herndon Avenue – and other services. The surrounding land uses are predominantly “sensitive receptors” such as single-family homes, schools, and churches. It is therefore no surprise the experts in the field have stated animal shelters should preferably not be located “adjacent to a residential area.” (Exhibit “D.”)

The Project contemplates the rezoning of the Project site to allow the development of an industrial land use – an animal shelter and hospital – adjacent to these sensitive receptors. By intensifying the land use of the Project site from its current state, the County would not only be placing a facility in the neighborhood that conflicts with the adjacent

land uses, but also intensifying development in an area that is already strained from an infrastructure perspective. Stated simply, there should be no intensification of land uses within the vicinity of the Project site without critical infrastructure upgrades and services, including most critically upgrades to the adjacent roadway network.

The Project is also not an appropriate land use for this community. In addition to overtaxing local infrastructure, animal shelter uses are not appropriate for residential areas. Animal shelters, for example, are heavily regulated by workplace safety agencies such as OSHA because they have the potential to generate significant levels of noise, odors, and vectors. Left unmitigated, these issues would interfere with the use and enjoyment of the adjacent properties, including churches, residences, and a local school.

C. The IS/MND Fails to Disclose Important Information Needed to Evaluate the Environmental Effects of the Project

While the County may need additional animal shelters, this is simply the wrong location for this facility. The Project should be denied on the merits.

One of the fundamental problems with the IS/MND is that it merely *presumes* the project would be developed and operated in a way that reduces or avoids the Project's potential environmental effects. The Project, however, merely comprises of a rezone and a general plan amendment. The IS/MND does not analyze the full-range of environmental impacts that could occur as a result of the Project; rather, the IS/MND analyzes a specific project-level design that is not before the County. Then, to avoid analysis of particular impacts, the IS/MND simply *presumes* various project features will ultimately be incorporated into the project that would avoid or minimize potential environmental effects. By proceeding in this fashion, the IS/MND's project description avoids full discussion of the Project's potential environmental effects, as well as reasonable feasible mitigation necessary to ensure the Project would not have significant environmental effects.

Inaccurate Project Description. CEQA requires that the project description must include reasonably foreseeable future activities that are consequences of the project. (See *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Cal.*, 47 Cal. 3d.) The IS/MND, however, fails to provide a description of the Project sufficient to identify and evaluate its potential environmental effects. Such information is necessary to evaluate whether the Project would have significant environmental impacts.

These omissions hinder a complete and accurate environmental review (and result in an invalid environmental document). Specifically, CEQA requires that the description of the project be accurate and consistent throughout the environmental document. (See, e.g., *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 195; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 738; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730; *Santiago Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 830; *Christward Ministry v. County of San Diego* (1993) 13 Cal.App.4th

31, 45; *Dusek v. Anaheim Redevelopment Agency* (1986) 173 Cal.App.3d 1029, 1040.) As explained in *County of Inyo*:

A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against the environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (*i.e.*, the “no project” alternative) and weigh other alternatives in the balance.

(*County of Inyo, supra*, 71 Cal.App.3d at 192-93.)

Here, the Project is simply a rezone and a general plan amendment. No specific facility has been proposed or will be approved by the Board. This is of significant concern because **any** future animal control facility, following the approval of the Project, would constitute a by-right use. Indeed, it appears the site plan **will** change because the current design shows the parking lot in a public right of way. (See Exhibit “A” at 6.) Despite this, the IS/MND actually discusses a **different** project, which is a specific animal control facility that is not before the County. As a result, the project description is unstable, and the IS/MND must be modified to be adequate under CEQA.

Failure to Include All Project Components. The entire project being proposed (and not some smaller aspect of it), must be described in the environmental document. This requirement reflects the CEQA Guideline’s definition of a “project” as the “whole of an action.” (CEQA Guidelines, § 15378.) Here, the IS/MND does not describe the whole of the action, but rather a future hypothetical facility that has not been specifically proposed. The Project itself is merely a rezone and a change in the land use designation, meaning that an applicant in the future could construct a vastly expanded animal control facility without adequate operational measures. As a result, the IS/MND is inadequate because it does not identify all **potential** components of the Project.

Piecemealing/Segmentation of Environmental Review. The failure to adequately describe a project, or provide sufficient detail, results in the improper piecemealing or segmentation of environmental review. Here, by omitting important details about the Project, the IS/MND does just that. In *Santiago Water District*, for example, the court held the environmental review for a mining operation inadequate because the project description omitted mention of the construction of water delivery facilities that were an integral part of the project. “Because of this omission, some important ramifications of the proposed project remained hidden from view at the time the project was being discussed and approved. This frustrates one of the core goals of CEQA.” (*Santiago Water Dist., supra*, 118 Cal.App.3d at 830.)

Here, the Project would allow a completely different and much larger project than that described in the IS/MND. This is because the change in the zoning and the land use designation could result in by-right uses – without subsequent environmental review – that are much more intense than the facilities described in the IS/MND. And there is no dispute the site

plan will need to change, as the current design shows the parking lot in a public right of way. (See Exhibit “A” at 6.) By proceeding in this fashion, the IS/MND seeks to impermissibly piecemeal or segment environmental review.

D. The IS/MND Impermissibly Relies Upon Non-Binding Project Design Features to Reduce the Project’s Significant Environmental Effects

The IS/MND asserts the applicant would incorporate several design features into the Project that are ultimately intended to prevent the occurrence of or minimize the significance of adverse environmental effects. The IS/MND then applies these design features to the Project’s unmitigated impacts on, *inter alia*, odors, noise, and traffic to conclude the Project’s impacts are supposedly less than significant, without discussing the severity of the impact prior to mitigation, and without incorporating the alleged design features as ***binding*** mitigation measures.

For example, with regard to odors, the IS/MND states, “[t]he project has the potential to cause objectionable odors from the use as an animal hospital and shelter.” (IS/MND at 4.) The IS/MND then concludes no mitigation is required for odor impacts, without discussing whether the unmitigated impacts would be significant. The IS/MND reaches this conclusion based on its contention that “[t]he project has been designed to contain odor by site design and operations,” including regular cleaning, deceased animal storage protocols, and the installation of a specialized HVAC system. (See IS/MND at 4.) The IS/MND’s reliance on these design features violates CEQA in several ways, including the failure to disclose the significance of unmitigated impacts, and by failing to require enforceable mitigation to reduce potentially significant impacts to less than significant levels.

The IS/MND reaches similar conclusions for noise, admitting that “barking is an inevitable issue in any animal shelter environment,” but ultimately stating that “kennel areas have been designed to reduce noise levels and to prevent excessive barking along the perimeters,” that “exterior kennels do not directly face residential areas,” and that “dogs may be confined to interior kennels overnight . . .” (IS/MND at 12.) Again, nothing in the MMRP or the conditions of approval actually require these project design components to occur.

Likewise, the noise analysis in the Acoustical Analysis is based upon the placement of kennels at a particular location, while nothing in the MMRP or the conditions of approval actually require the kennels to be at that location. Rather, the applicant appears to have specifically declined to implement recommended mitigation to reduce the noise impacts of the Project to a less than significant level. (See IS/MND at 12 [recommending mitigation requiring “six (6) foot high solid masonry wall . . . along the property lines of this development” to “provide additional sound attenuation.”].)

The same is true with traffic. While the trip generation estimates in the TIS are based on a facility with a square footage of approximately 30,000, there is nothing preventing the development of a by-right use vastly expanding the size of the facility. This not only affects the maximum trip generation of the facility, but also the Project’s fair share of the traffic-related

impacts of the Project, which to date the applicant has declined to mitigate. (IS/MND at 15 [“The TIS recommended the project proponent participate in a fair-share for improvements at the intersection of Grantland and Parkway to bring the intersection to an acceptable LOS.”].)

1. Failure to Disclose Potentially Significant Impacts Prior to Mitigation

The IS/MND’s use of design features to attempt to minimize the Project’s unmitigated impacts violates CEQA’s requirement that the lead agency must first determine the extent of a project’s impacts before it may apply mitigation measures to reduce those impacts. (CEQA Guidelines, § 15370; *Lotus v. Dept. of Trans.* (2014) 223 Cal.App.4th 645, 651-52.) In addition, the CEQA Guidelines define “measures which are proposed by project proponents to be included in the project” as “mitigation measures” within the meaning of CEQA. (CEQA Guidelines, § 15126.4(a)(1)(A).) As described in Section 15370 of the CEQA Guidelines, “mitigation” includes:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

(*Lotus, supra*, 223 Cal.App.4th at 650.)

California courts interpreting Section 15370 have held that “avoidance, minimization and/or mitigation measures,” are not “part of the project.” (*Id.* at 656.) Rather, they are mitigation measures designed to reduce or eliminate environmental impacts of the Project, **and must be treated as such**. Mitigation measures cannot be incorporated in an IS/MND’s initial calculation of the Project’s unmitigated impacts because the analysis of unmitigated impacts, by definition, must accurately assess such impacts **before** any mitigation measures to reduce those impacts are applied. (*Id.* at 651-52.) An environmental document that conflates the analysis of impacts and mitigation measures into a single issue disregards the requirements of CEQA.

Because CEQA prohibits the conflation of mitigation measure with a project feature, the IS/MND’s lack of analysis of potential environmental impacts caused by the Project

violates CEQA. The IS/MND should be revised to disclose the severity of all potentially significant impacts prior to mitigation.

2. Failure to Require Enforceable Mitigation

To be adequate under CEQA, mitigation measures must be enforceable through conditions of approval, contracts, or other methods to ensure the measures are legally binding. (Pub. Resources Code, § 21081.6, subd. (b); CEQA Guidelines, § 15126.4(a)(2); *Lotus, supra*, 223 Cal.App.4th at 651-52.) This requirement is intended to ensure that mitigation measures will actually be implemented, not merely adopted and then ignored. (*Fed. of Hillside & Cyn. Ass'n v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261; *Anderson First Coalition v. City of Anderson* (2005) 130 Cal.App.4th 1173, 1186.)

The IS/MND's reliance on design features (as opposed to binding mitigation) fails to meet this threshold requirement because the measures are not incorporated as binding mitigation measures in either the MMRP or proposed Conditions of Approval. As a result, the IS/MND fails to include any binding mechanism to ensure the applicant would actually implement these measures for the Project. Without an enforceable mechanism, the project features described in the IS/MND are little more than aspirations about what might occur, and the IS/MND's conclusions that the Project's impacts would be less than significant with these project features incorporated are unsupported.

If the County intends to rely upon project features to reduce or avoid potentially significant impacts, and to reduce those impacts to less than significant levels, the project features must be incorporated into the Project's MMRP and Conditions of Approval. (*Lotus, supra*, 223 Cal.App.4th at 651-52.)

E. The Traffic Impact Study is Fundamentally Flawed

The TIS Includes an Artificially Narrow Scope. The analysis in the TIS includes just one intersection – the Parkway Drive/Grantland Avenue intersection. Despite heavy congestion in the vicinity of the Project, and the fact that most traffic from the Project would be traveling to Herndon Avenue, no other intersections were studied. Nor did the TIS evaluate any roadway segments. The TIS provides no justification for the truncated nature of the study's scope.

In light of the configuration of the local roadway network, it is unclear why the following intersections/roadway segments were entirely ignored:

- Tenaya and Grantland
- Herndon and Parkway
- Herndon and S.R. 99 Offramp

- Herndon and Golden State
- Parkway and Menlo
- Grantland and Mesa
- Grantland and Bullard
- Grantland and Barstow
- Grantland and Shaw

The failure to analyze the above intersections/roadway segments results in an inadequate environmental document. (See also Exhibit “A” 1-3 [opining that the failure to study certain intersections renders the Traffic Impact Study inadequate].) CEQA prohibits use of a truncated study area to avoid disclosing a project’s impacts. The Supreme Court has emphasized that an environmental document may not ignore the regional impacts of a project approval, including those impacts that occur outside of its borders; on the contrary, a regional perspective is required.” (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 575.) An environmental document must analyze environmental impacts over the entire area where one might reasonably expect these impacts to occur. (See *Kings County Farm Bureau v. City of Hanford* {1990} 221 Cal.App.3d 692, 721-23.) This principle derives from the requirement that an environmental document analyze all significant or potentially significant environmental impacts. (Pub. Res. Code, §§ 21061, 21068.) An environmental document cannot analyze all such environmental impacts if its study area does not include the geographical area over which these impacts will occur.

Traffic Generation Appears to Be Understated. As explained in the accompanying report of Smith Engineering & Management, the trip generation estimations for the Project appear to be significantly understated and without basis in fact. This is because the Traffic Impact Study was based on trip generation estimates from a very small sample of projects in the San Francisco Bay Area, which are significantly different from this project. In addition, the trip generation estimates are based on an assumed site plan, which could be expanded dramatically due to the fact that (i) an animal shelter will be a by-right use, and (ii) the current design encroaches upon a public right of way. (See Exhibit “A” at 3-4.)

Erroneous Site Plan. The TIS is not based on substantial evidence because the site plan is erroneous. Specifically, the site plan upon which the TIS was based includes parking within the public right of way. In other words, it appears the site plan will need to be changed before site plan review and construction. As a result, the conclusions in the TIS are not based on substantial evidence. (See Exhibit “A” at 6.)

The TIS Does Not Constitute Substantial Evidence Because it does Not Reflect Real-World Conditions. The TIS opines that the level of service for the Grantland/Parkway

intersection is either A or B. As explained in the report prepared by Smith Engineering & Management, however, these conclusions do not appear to be consistent with on the ground conditions, which reveal the surrounding intersections operate less efficiently than the theoretical calculations presume. (See Exhibit “A” at 4-5.) This is due, in part, on the fact that the baseline traffic counts were taken on a Wednesday – a day upon which the local elementary school releases students early, and on which there are no afterschool activities. (See Exhibit “E.”)

Further, video/photographic evidence shows the W. Tenaya/Grantland intersection is severely impacted during a.m. peak hours due to queuing at the Grantland/Parkway intersection. Those videos show drivers waiting over 60 seconds to make a left-hand turn from W. Tenaya onto Grantland. If driver testimony regarding a 60-second delay at an unsignalized intersection is accurate, such conditions would actually appear to be LOS F, and thus unacceptable under County of Fresno standards. (See Exhibit “A” at 2; see also generally Exhibits “B” and “C.”)

Although the TIS suggests northbound/left queuing at Parkway and Grantland during a.m. peak hours is only 170 feet, (TIS at 25), photographs and videos of existing conditions show queuing during a.m. peak hours extending past Tenaya Avenue, which is over 700 feet to the south of the subject intersection. (See Exhibit “A” at 5.)

Although the TIS suggests northbound/right queuing storage length at Parkway and Grantland is 295 feet, and that peak a.m. conditions show queuing of only 59 feet, (TIS at 25), this is belied by photographs and videos of existing conditions, which show motorists either (i) waiting in the single lane to make a right-hand turning movement or (ii) making unsafe movements and bypassing traffic outside the lane to make a right-hand turning movement. (See Exhibit “A” at 5.)

The TIS Offers Erroneous Evidence Concerning 2035 Conditions. The TIS suggests the Parkway/Grantland intersection will operate at acceptable levels during p.m. peak hour conditions. (TIS at 21.) There is no evidence to support this assertion. Rather, this conclusion is contrary to the findings of Caltrans and the City of Fresno in their study concerning the proposed S.R. 99/Veterans Boulevard interchange. In that study, the authors found the Grantland/Parkway intersection would operate at LOS F conditions in ***both*** a.m. peak hour and p.m. peak hour conditions. (Exhibit “F.”) As such, the Project’s contribution to these cumulatively considerable conditions should be evaluated and mitigated.

F. An Environmental Impact Report is Required for the Proposed Project

1. Substantial Evidence Supports a Fair Argument that the Project Will Have Significant Effects on the Environment and, As Such, the County Must Prepare an EIR

The Project is not appropriate for this neighborhood, and should therefore be denied on the merits. But even if the County were to consider the Project, the IS/MND is not the

appropriate vehicle to evaluate the Project's potential environmental effects under CEQA. Rather, an Environmental Impact Report (EIR) is required, as there is substantial evidence supporting a fair argument that there are significant impacts from the Project, and those impacts could be cumulatively considerable.

Prior to considering any "project" under CEQA, a lead agency must first determine whether to prepare a Negative Declaration, a Mitigated Negative Declaration, or an EIR for the project. (CEQA Guidelines, § 15063.) The lead agency makes this determination based on what is called the "fair argument" standard. (CEQA Guidelines, § 15064(f)(1).) As explained by the Supreme Court:

[S]ince the preparation of an EIR is the key to environmental protection under CEQA, accomplishment of the high objectives of that act requires the preparation of an EIR whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact.

(*No Oil, Inc. v. City of Los Angeles* (1975) 13 Cal.3d 68, 75.)

The Supreme Court has explained that even in "close and doubtful cases," an EIR should *always* be prepared to ensure "the Legislature's objective of ensuring that environmental protection serve as the guiding criterion in agency decisions." (*Id.* at 84; see also Pub. Resources Code, § 21101, subd. (d).) Many courts have stated that the "EIR is the heart of CEQA. The report . . . may be viewed as an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes **before** they have reached ecological points of no return." (*Citizens for Quality Growth v. City of Mount Shasta* (1988) 198 Cal.App.3d 433, 438 [quoting *County of Inyo v. Yorty* (1973) 32 Cal.App.3d 795, 810] [emphasis added].)

The CEQA Guidelines set forth the "fair argument" test used to evaluate whether an EIR is required:

If the lead agency finds there is substantial evidence in the record that the project may have a significant effect on the environment, the lead agency shall prepare an EIR. Said another way, if a lead agency is presented with a fair argument that a project may have a significant effect on the environment, the lead agency **shall prepare an EIR** even though it may also be presented with other substantial evidence that the project will not have a significant effect.

(CEQA Guidelines, § 15064(f)(1); see also Pub. Resources Code, § 21080, subd. (d) [internal citations omitted].)

Moreover, an agency's failure to gather or analyze information on a project's impacts can expand the scope of the fair argument standard necessitating the preparation of an EIR. (See, e.g., *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311 ["CEQA

places the burden of environmental investigation on government rather than the public,” and a lead agency “should not be allowed to hide behind its own failure to gather data.”].)

Accordingly, if any commenting party makes a fair argument that the Proposed Project’s environmental impacts “may have a significant effect on the environment,” the County **must** prepare an EIR, even if other substantial evidence supports the argument that adverse environmental effects will **not** occur. (CEQA Guidelines, § 15064(g)(1); see also *Sierra Club v. County of Sonoma* (1992) 6 Cal.App.4th 1307, 1316 [“[i]f there is substantial evidence of such an impact, contrary evidence is not adequate to support a decision to dispense with an EIR.”].)

Here, substantial evidence supports a fair argument that an EIR is necessary:

Noise. The American Humane Society recognizes that “[m]ost animal shelters have unacceptable noise levels in dog kennel areas.” As such, “Hearing protection [is] required!!!” (Exhibit “G” [emphasis in original].) According to academic studies published in scientific journals, noise associated with animal shelters can regularly exceed 100 dB. (See Coppola, *Noise in the Animal Shelter Environment: Building Design and the Effects of Daily Noise Exposure*, Journal of Applied Animal Welfare Science, 9(1), 1-7, Exhibit “H.”) In fact, many articles suggest noise levels at kennels can reach unmitigated levels of 115 dB (the equivalent of a live rock concert).¹ (Exhibit “I.”) “Sound is measured in decibels (dB) and the scale is logarithmic, meaning that 90 dB is 10 times the intensity of 80 dB and it 100 times the intensity of 70 dB.” (Exhibit “H.”.)

The evidence shows unmitigated sound emanating from the proposed Project would have significant impacts on nearby sensitive receptors. The Fresno County Code designates several types of land uses as sensitive receptors, including single- or multiple-family residences, schools, hospitals, churches or public libraries. (See Fresno County Code, § 8.40.040.) Two sensitive receptors not mentioned in the Acoustical Analysis are adjacent to the northern boundary of the Project site: (i) a church called the Iglesia dia de Pentacostal M.I.,² and (ii) the Grantland Avenue Southern Baptist Burch. Both churches are located on 6438 N. Grantland Avenue, adjacent to the Project site.

Assuming the Project is subject to a 20-foot sideyard setback, there is nothing in the conditions of approval or the MMRP preventing indoor/outdoor kennels 20-feet away from the boundary of the property used by the churches on 6438 N. Grantland Avenue. Using the same methods and calculations employed by the applicant’s consultant, unmitigated sound exceeding 100 dB at a point source 20 feet from the northernmost boundary of the Project site would result in sound levels at approximately 84.3 dB, which exceeds all daytime and nighttime

¹ <http://www.industrialnoisecontrol.com/comparative-noise-examples.htm>

² <https://www.iglesiaenfresno.org/>

Noise Level Standards included in the County's Code.³ (See Fresno County, Code of Ordinances, § 8.40.040(A).)

The Acoustical Analysis also asserts "the closest residential land uses would be approximately 350 feet from the closest proposed kennels." (Acoustical Analysis at 6.) As an initial matter, it is unclear why the Acoustical Analysis is based on the placement of the kennels at a particular location, as there is no condition or approval or mitigation measure requiring the kennels to be placed at any particular location. Because the kennels could be placed *anywhere* on the Project site (other than the public right of way), the kennels could be placed as close as 100 feet to the nearest residential land use immediately across Grantland Avenue from the Project. Using the same method of calculation as the Acoustical Analysis, this would result in noise levels of approximately 70.3 dB, which likewise exceed all daytime and nighttime Noise Levels Standards stated in the County Code. (See Fresno County, Code of Ordinances, § 8.40.040(A).)

And the concerns regarding noise are not just shared by the residential neighbors of the Project. Indeed, Central Unified School District has expressed concern about the lack of noise mitigation for the Project. (See Exhibit "J.")

Further, experts have stated that, while highway proximity is good, animal shelters generally should not be located adjacent to a highway, such as the Project site. (See Exhibit "D" ["Accessibility from a major highway is ideal but not so close that there is significant noise (i.e. loud truck brakes, horns, etc.)."])

In short, substantial evidence of a fair argument exists that the Project would have significant acoustic impacts, and that the Project would result in events that exceed the noise levels contemplated under Section 8.40 of the Fresno County Code. (See CEQA Guidelines, Appendix G, Subd. XI(a).) As a result, to the extent the County considers the Project for approval, and EIR should be prepared.

Aesthetics. CEQA requires analysis of a project's impacts on "view and other features of beauty." (*Ocean View Estates Homeowners Assn., Inc. v. Montecito Water Dist.* (2004) 116 Cal.App.4th 396, 401.) On this topic, "the opinions of area residents, if based on direct observation, may be relevant as to aesthetic impact and may constitute substantial

³ As explained in the Acoustical Analysis, sound decreases by approximately 6 dB from the point source every time the distance from the point source doubles. (Acoustical Analysis at 7 [explaining that the "normal rate of attenuation of noise levels with increasing distance from a point source" is "-6 dB per doubling of distance . . ."].) This general rule of thumb can also be expressed through the equation: $L_p(R2) = L_p(R1) - 20 \cdot \log_{10}(R2/R1)$, in which $L_p(R1)$ equals sound pressure level at one location, such as the point source, and $R1$ equals the distance of that location from the point source). $R2$, in turn, equals the distance from the point source to the new location, while $L_p(R2)$ equals sound pressure level at the second location. (See <http://www.wkcgroup.com/tools-room/inverse-square-law-sound-calculator/>.)

evidence in support of a fair argument; no special expertise is required on this topic.” (*The Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 908, 937 [requiring EIR, rather than Initial Study, in part to address neighbors' concerns regarding aesthetic impacts of project].)

The IS/MND determined the Project would have a less than significant environmental impact with respect to aesthetics, “with mitigation incorporated.” This mitigation was required because the subject property is surrounded by properties zoned Rural Residential. As such, the Initial Study recommended a mitigation measure requiring the erection of a “six (6) foot high solid masonry wall” along the property lines adjacent to Rural Residential Zone Districts. (IS/MND at 2.) This mitigation measure, however, has been removed from the Mitigation Monitoring and Reporting Program, and thus is no longer required.

A mitigated negative declaration is only appropriate where the applicant agreed to eliminate or avoid all potentially significant environmental impacts by incorporating mitigation measures into the project. (See Pub. Resources Code, §§ 21064.5, 21080, subd. (c)(2); CEQA Guidelines, §§ 15064(f)(2), 15070(b).) Because the IS/MND recommended mitigation to avoid or eliminate potential aesthetic impacts – *i.e.*, the six-foot wall – but has not incorporated that mitigation measure into the Project, or added the mitigation to the Mitigation Monitoring and Reporting Program, the County may not adopt a mitigated negative declaration, and must instead prepare an environmental impact report.

Odors. The IS/MND concedes the Project “has the potential to cause objectionable odors from the use as an animal hospital and shelter.” (IS/MND at 4.) The IS/MND, however, does not explain what those odors may be, or attempt to analyze the potential impacts of those odors. Rather, the IS/MND asserts – without evidence – that the “project has been designed to contain odor by site design and operations.” (*Id.*) In other words, the IS/MND concedes Project has the potential to cause significant environmental impacts associated with the creation of odors, but contends those odors would be “mitigated” through project design and operations. This analysis is inadequate under CEQA, as there is no mitigation or condition of approval requiring the Project to be designed in any particular way, nor is there anything requiring the applicant to engage in operations that would reduce odors to a less than significant level. Because the IS/MND concedes objectionable odors would occur from an unmitigated facility, and there is no mitigation, the record contains substantial evidence of a significant environmental impact and, as a result, an EIR must be prepared.

Public Safety. It is common for individuals to illegally abandon animals at shelters. Data from Central California SPCA show that in fiscal year 2016-17 alone, 404 animals were abandoned at the shelter – a rate of over one animal per day. (Exhibit “K.”) Afraid animals in an unfamiliar location can be dangerous, particularly when they are abandoned in a manner where they are not secured. This has the potential to create dangerous conditions for nearby residences and churches, as well as the elementary school across the street from the Project site. Indeed, Central Unified School District has expressed concern regarding the location of the Project for this reason. (See Exhibit “J.”)

There are no conditions of approval or mitigation measures designed to limit the impact of abandoned animals. Because these impacts have not been evaluated or mitigated, the County may not approve a mitigated negative declaration for the Project.

Traffic and Traffic Safety. The Project would also result in adverse traffic and traffic safety impacts:

- The Herndon/S.R. 99 Southbound offramp interchange is currently operating at an unacceptable LOS (LOS E in a.m. peak hours and LOS F in p.m. peak hours). (Exhibit “F.”) The same is true for cumulative conditions. (*Id.*) Virtually all motorists making a left-hand turn onto Parkway Drive will traverse this intersection. The Project will exacerbate these unacceptable conditions under both existing conditions and 2035 conditions.
- There is no direct way to travel southbound from the Project site. Rather, to travel southbound, a vehicle would need to make a left-hand turn on Parkway Drive, and travel through the residential neighborhood to the west via Menlo, Annapolis, and Tenaya.
- Photographs and videos of existing conditions show queuing for the northbound/left movement extending past Tenaya Avenue, which is over 700 feet to the south, and blocks the Tenaya/Grantland intersection.
- Photographs and videos of existing conditions show queuing for the northbound/right movement extending far past the 295 feet stated as the queuing capacity in the TIS at 25.
- Photographs and videos show motorists traveling northbound on Grantland creating unsafe conditions by bypassing traffic on the dirt to make a right-hand turning movement onto Parkway Drive/S.R. 99.
- Photographs and videos show the Tenaya/Grantland Avenue intersection operating at an unacceptable level of service during a.m. peak hours. This is because motorists seeking to make a left-hand turning movement from Tenaya Avenue onto Grantland are restricted from making a left-hand turn movement onto Grantland due to excessive queueing northbound on Grantland. The Project will exacerbate these unacceptable conditions because (i) vehicles seeking to enter the Project from southbound Grantland will be required to make a U-Turn at Tenaya Avenue, and (ii) vehicles seeking to travel from the Project southbound on Grantland will be required to turn north onto Grantland, and then route through the neighborhood, and make a right-hand turn onto Grantland. (See generally Exhibits “B” and “C.”)

- According to Central Unified School District, traffic conditions are poor in the morning hours, and increases in traffic from the Project would exacerbate those unacceptable conditions. (See Exhibit “J.”) To avoid traffic safety issues resulting from the need for students to cross the street, the County should require that the Project install traffic mitigation measures in the form of controlled intersections for children to cross Grantland Avenue and have a clear path of travel. (See *id.*)

Hydrology/Public Facilities. Fresno Irrigation District’s (“FID”) active 48-inch Epstein pipeline traverses the portions of the property. The pipe was installed in the 1970s, and according to FID is easily damaged, extremely prone to leakage, and does not meet FID’s **minimum** standards for developed parcels or urban areas. Any interference with the pipeline could not only cause flooding in the vicinity of the Project, but also cause FID farmers to lose water for extended periods. Although FID has an agreement with the landowner that runs with the land to install a new 48-inch pipeline upon development, we understand this will not occur. We likewise understand the applicant has not submitted a grading and drainage plan showing the proposed development would not endanger the structural integrity of the facility, or result in drainage patterns that could adversely affect FID. To avoid the potentially significant impact identified by FID, the pipeline should be upgraded.

The Project Will Result in Significant Land Use Impacts. CEQA requires agencies to evaluate whether a proposed development project will, among other things, conflict with any land use plan, policy, or regulation of an agency with jurisdiction over a project. A fair argument exists that the Project as proposed will result in several conflicts with both the County’s General Plan and the Zoning Code. First, the Project seeks to bring an industrial land use into an area that is predominantly rural residential. This conflicts with both sound land use principles, as industrial land uses are typically incompatible with residential land uses, particularly when they are adjacent to each other. In addition, as explained in detail below, the Project is inconsistent with several policies and programs articulated in the County’s General Plan.

In short, as the Project is presently designed, substantial evidence supports a fair argument that the Project will cause significant environmental effects. As a result, the County cannot approve the IS/MND.

2. The MND Fails to Analyze the Project’s Cumulative Impacts

CEQA “require[s] a finding that a project may have a ‘significant effect on the environment’ if . . . [t]he possible effects of a project are individually limited but cumulatively considerable.” (Pub. Res. Code, § 21083.) A project’s cumulative impacts are significant if the project’s incremental contribution to the impact is “cumulative considerable.” (CEQA Guidelines § 15130(a).) A Project’s incremental contribution is cumulatively considerable if the incremental effects of the project are significant “when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” (CEQA Guidelines § 15065(a)(3).) The fact that a particular project’s incremental impact is not

alone significant, or is relatively small when compared to the greater overall problem, does not mean the project does not have significant cumulative impacts. This theory was rejected in *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720-21.) The proper standard for a cumulative impacts analysis is whether the impacts are “collectively significant.” (*Id.* at 721 [citing CEQS Guidelines, § 15355].)

If a project’s incremental contribution to the impact is “cumulative considerable,” (CEQA Guidelines § 15130(a)) – i.e., if they are “collectively significant,” (*Kings County Farm Bureau, supra*, 221 Cal.App.3d at 721) – the lead agency must examine reasonable, feasible options for reducing or avoiding the project’s contribution to those significant cumulative effects. (CEQA Guidelines, § 15130(b)(5).) A mitigated negative declaration may not be adopted unless the all potentially significant environmental impacts are eliminated or avoided by incorporating such mitigation measures into the project. (See, e.g., Pub. Resources Code, §§ 21064.5, 21080, subd. (c)(2); CEQA Guidelines, § 15064(f)(2), 15070(b).)

The IS/MND Fails to Address Cumulative Impacts to Roadways Impacted by the Project. According to the City of Fresno and Caltrans, several roadways within the vicinity of the Project are projected to operate at unacceptable levels of service under 2035 conditions. These include:

- Northbound S.R. 99 offramp/Herndon (a.m. and p.m. peak hours)
- Herndon/Parkway (a.m. peak hour)
- Parkway/Grantland/S.R. 99 SB onramp (a.m. and p.m. peak hours)
- Herndon/Golden Sate (a.m. and p.m. peak hours)

(See Exhibit “F.”) In addition, the Tenaya/Grantland intersection already appears to be operating under an unacceptable level of service. (See *id.*)

The Project will result in additional vehicle trips traversing each of these intersections. The Project would thus contribute to “cumulatively considerable” conditions to these intersections under 2035 conditions. (See Exhibit “A” at 3.) As a result, the County cannot approve the Project using the IS/MND as drafted. Rather, the County must evaluate the above intersections, **and** require the applicant to either install the improvements or pay its fair share of the improvements necessary to reduce the transportation impacts to a less than significant level. Otherwise, a full environmental impact report is required.

Failure to Adopt Mitigation for Incremental Contributions to Impacts that Are Cumulatively Considerable. The TIS recognizes the Parkway/Grantland intersection will operate at an unacceptable level of service (LOS F) in Cumulative Year 2035 conditions. (TIS at 21.) The TIS also recognizes the Project would contribute to these unacceptable conditions, and

thus recommends mitigation in the form of roadway improvements (specifically, the modification of the northbound right-turn lane to a left-right lane), and the addition of a westbound receiving lane on Parkway Drive. (*Id.* at 23.) The TIS also calculates the Project's fair-share contribution for such improvements. (*Id.* at 26.)

The IS/MND, however, does not require the applicant to either install the improvements (subject to reimbursement) or pay a fair share of its improvements. Thus, the Project will make an incremental contribution to "cumulatively considerable" conditions. (CEQA Guidelines § 15130(a).) As a result, the County may not adopt a mitigated negative declaration for the Project, and must instead prepare a full environmental impact report.

G. The IS/MND Must Be Recirculated for Public Review

If, after circulation of an initial study, mitigation measures are changed, the initial study should be recirculated for additional public review. (See CEQA Guidelines, § 15073.5.) Here, the initial study originally contemplated a mitigation measure in the form of a six-foot high masonry wall to avoid or eliminate the aesthetic and noise impacts of the project. (See IS/MND at 2, 12.) This mitigation, however, was eliminated after the original circulation of the IS/MND. As such, the County must recirculate the IS/MND for public review before considering the Project for approval. (CEQA Guidelines, § 15073.5.)

H. The Project Is Inconsistent With the Fresno County General Plan

State planning and zoning law requires that all land-use decisions of counties must be consistent with the county's General Plan. (Govt. Code, § 65860, subd. (a); see also *Corona-Norco Unif. Sch. Dist. v. City of Corona* (1993) 17 Cal.App.4th 985, 994.) A "project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment." (*Corona-Norco, supra*, 17 Cal.App.4th at 994.) While perfect conformity may not be required, "a project **must** be compatible with the objectives and policies of the general plan." (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 782 [emphasis added] [citing *Families Unafraid to Uphold Rural etc. County v. Board of Supers.* (1998) 62 Cal.App.4th 1332, 1336].) "A project is inconsistent if it conflicts with a general plan policy that is fundamental, mandatory, and clear." (*Endangered Habitats, supra*, 131 Cal.App.4th at 782 [citing *Families Unafraid, supra*, 62 Cal.App.4th at 1341-42].)

The Project is inconsistent with several goals and policies of the County's General Plan:

- The County's Urban Industrial Development Policy LU-F.29 states that the "County may approve rezoning requests and discretionary permits for new industrial development or expansion of existing industrial uses" subject to, *inter alia*, (i) "Operational measures or specialized equipment to protect public health, safety, and welfare, and to reduce adverse impacts of noise, odor, vibration, smoke, noxious gases, heat and glare, dust and

dirt, combustibles, and other pollutants on abutting properties”; (ii) “Mandatory maintenance of non-objectionable use areas adjacent to or surrounding the use in order to isolate the use from abutting properties”; and (iii) “Limitations on the industry’s size, time of operation, or length of permit.” Here, there are no binding mechanisms to ensure the Project would not create adverse “impacts of noise, odor, vibration, smoke, noxious gases, heat and glare, dust and dirt, combustibles, and other pollutants on abutting properties”; rather, the IS/MND merely assumes those impacts would not occur due to potential (but not mandated) project features. In addition, there is nothing in the MMRP or the Conditions of Approval mandating “maintenance of non-objectionable use areas adjacent to or surrounding the use in order to isolate the use from abutting properties.” Further, there are no “[l]imitations on the industry’s size, time of operation, or length of permit”; rather, the Project may simply operate without restriction.

- The County’s Policy LU-F.32 provides that the County should “require facility design, traffic control devices, and appropriate road closures to eliminate” local roads not being suitable for industrial traffic. Here, no meaningful roadway upgrades are being required to minimize adverse conditions.
- The County’s Goal LU-G requires the County to “direct urban development within city spheres of influence to existing incorporated cities and to ensure that all development in city fringe areas is well planned and adequately served by necessary public facilities and infrastructure and furthers countywide economic development goals.” As the video and photographic evidence shows, development of infrastructure in the vicinity of the Project has not maintained pace with development. Additional infrastructure upgrades are sorely needed before the County considers additional urban development along the Grantland corridor.
- The County’s Policy LU-G.10 states that the County “**shall** minimize potential land use conflicts at the interface between urban development and existing developed rural-residential areas. Provision for a graduated transition in density/lot size from higher to lower density between the two respective areas shall generally be required unless significant buffers or other measures are determined adequate to protect established rural residential developments. The County, while recognizing the cities’ need to optimize use of land within their sphere boundaries, shall encourage cities to require buffering measures when urban development is proposed adjacent to existing developed rural-residential areas within their spheres-of-influence.” The Project does not comply with any of these policies to any measurable degree. There is no graduated transition between the

Project and existing low-intensity residential uses. And there is no buffer between this industrial land use and rural residential zoned properties.

- The County's Goal HS-G is to "protect residential and other noise-sensitive uses from exposure to harmful or annoying noise levels; to identify maximum acceptable noise levels compatible with various land use designations; and to develop a policy framework necessary to achieve and maintain a healthful noise environment." Here, the County is contemplating a Project with the potential to substantially increase noise in the area. As explained above, animal shelters are highly regulated under OSHA due to adverse noise conditions, which can exceed 100dB. Despite this, the Project is proposed to be adjacent to numerous sensitive receptors, including churches, schools, and residences.
- The County's Policy HS-G.1 provides that the "County *shall* require that all proposed development incorporate design elements necessary to minimize adverse noise impacts on surrounding land uses." Again, there are no conditions of approval or mitigation measures that require any noise mitigation.

I. Conclusion

For each of the foregoing reasons, the County should not adopt the Mitigated Negative Declaration for the Project, and should decline to approve Project. Although my clients believe the Project should fail on its own merits, the Project may not be approved unless the County prepares a full environmental impact report to fully evaluate the numerous potentially significant effects of the Project, and to fully mitigate each of those negative environmental effects.

Respectfully submitted,



John P. Kinsey

Enclosures

cc: Fresno County Board of Supervisors (via email), including Exhibit "A" only









76

76

7NJV185

2 \$4.99

Track 11

CD

Source

0:03:04







----- Forwarded message -----

From: **Shelter Medicine Consult** <sheltermedconsult@gmail.com>

Date: Wed, Oct 17, 2018 at 6:16 PM

Subject: Re: Animal Shelter Site Selection Questions

To: <elisabilios@gmail.com>

Hello Elisa,

Thank you for your excellent questions!

Building an animal shelter is a huge endeavor and, as with many things, proper planning is key to success. There are so many considerations when building an animal shelter that are different from any other type of construction. One of the many factors to consider is the size of the shelter itself. Serious issues can arise when a shelter is either too big or too small! We recommend working with a shelter medicine professional to ensure your space appropriately matches your needs. Hiring or consulting with an architect familiar with animal sheltering needs will likely save money in the long run by ensuring things are done properly from the beginning.

How close should an animal shelter be to an elementary school with over 700 students?

What is your concern? Safety? Noise? Zoonotic disease? Our biggest concern would be potential noise from the shelter reaching the school. It is difficult to give a thorough answer without any additional information. Will the dogs be housed in indoor-outdoor runs? We strongly recommend this for the dogs' health and well-being but it does mean the potential for noise from barking dogs could disturb the children. Proximity might be helpful if the school and the shelter work together to teach the children about caring for animals. It also might be an avenue for increased adoptions ("Let's stop at the shelter on the way home from school!").

What would be a more beneficial location for an animal services agency that covers over 6,000 square miles, a location that is centralized to the community or on a border of said community? How close should an animal shelter be to a major highway?

Ideally the shelter would be central to the population it serves, in an area easy to access, with good road visibility, and low noise, preferably not adjacent to a residential area. The location should be an area the public would consider a pleasant place to visit (i.e. not next to the city sewer or landfill). You might wish to consider your proximity to the majority of the animal service calls but if those are on the border of the community the trade-off may not be worthwhile. Your objective should be to be convenient and accessible to

your community, even if your animal services officers need to drive farther for a call. Accessibility from a major highway is ideal but not so close that there is significant noise (i.e. loud truck brakes, horns, etc.)

How close should an animal shelter be to a residential area?

Every shelter is different in the amount of noise they generate. Since the majority of the animals you will be sheltering are dogs you will want to pay extra consideration to facility design and enrichment tools that will decrease barking. Generally the better the welfare of the dogs and the less time spent on daily activities such as cleaning, the less barking you will have, but in general we recommend that your shelter not be built directly adjacent to a residential area. If building in an open area, consider the intended use for surrounding land to ensure that you are not building a shelter in an area that will later be surrounded by homes.

How much land should be designated for livestock if there is a 4 acre site to utilize for all shelter facilities?

This is a difficult question to answer without more information about the numbers and type of livestock you will be housing, how frequently you will be sheltering them, and the amount of time you expect to house them. Ideally all animal stays will be as short as possible but if your organization is responsible for animals involved in court cases your length of stay for some animals might be quite long. Depending on the species, you may wish to consult with an expert in that field (i.e. equine needs differ greatly from needs for pigs). Given your intake numbers, you may need more than 4 acres to meet all of your needs (building, barn, paddock and/or pasture, dog play yards, training spaces, indoor-outdoor housing). If additional land is not a possibility you may wish to consider alternative housing options for larger animals like horses or cattle if they are not able to leave your shelter within a reasonable amount of time (what is reasonable depends on your capacity for care of that animal at that time). Some shelters have relationships with stables for discounted equine housing and care.

As you move further into planning your new shelter, remember that your outdoor space deserves as much consideration as your indoor space. Getting your dogs outside to play is possible year-round when you have planned appropriately. Use of canopies or shade cloths, wind breaks or other structures can make it pleasant for people to spend time outside with shelter animals despite the weather. Outdoor “catios” or screened in porches for indoor-outdoor cat housing are a great way to minimize stress in cats so consider those when planning your outdoor space as well.

As you realize, location of an animal shelter is important on many different levels. We need to consider community access, welfare and safety of both animals *and* humans, aesthetics, costs, and more.

I hope this helps answer your questions. For more detailed information on facility design, check out our Information Sheet on Facility Design and Animal Housing [here](#).

Thank you for reaching out and good luck with your build!

Erica Schumacher, DVM
Outreach Veterinarian, Shelter Medicine Program
University of Wisconsin-Madison School of Veterinary Medicine

**Special thanks to Dr. Denae Wagner, Assistant Director for the UC-Davis Koret Shelter Medicine Program for her assistance with this response!*

To facilitate our tracking, please send us the name of your shelter/organization (if not already given), as well as the approximate number of animals your shelter takes in each year.

Thank you!

uwsheltermedicine.com

Connect with us on Facebook: www.facebook.com/UWShelterMedicine

On Fri, Oct 5, 2018 at 4:19 PM Elisa B <elisabilios@gmail.com> wrote:

----- Forwarded message -----

From: **Elisa B** <elisabilios@gmail.com>

Date: Wed, Sep 26, 2018 at 2:01 PM

Subject: Animal Shelter Site Selection Questions

To: Shelter Med <sheltermedicine@ucdavis.edu>

To Whom It May Concern,

I have a few questions about site selection for an animal shelter that would take in ~7,000 animals annually (1,500 cats and 5,500 dogs), and a few dozen livestock animals (from rabbits to cattle).

How close should an animal shelter be to an elementary school with over 700 students?

What would be a more beneficial location for an animal services agency the covers over 6,000 square miles, a location that is centralized to the community or on a border of said community?

How close should an animal shelter be to a mainstream highway?

How much land should be designated for livestock if there is a 4 acre site to utilize for all shelter facilities?

How close should an animal shelter be to a residential area?

How close should an animal shelter be to a major highway?

I appreciate your time and consideration.

Elisa Bilios
UC Davis
c/o 2001

HERNDON BARSTOW ELEMENTARY'S 2017-2018 BELL SCHEDULE

<u>Daily Bell Schedule</u> 8:30 – 3:10 M, T, Th, F 8:30 – 1:35 W <u>Lunch:</u> All students will go to lunch first than recess. <u>Rainy days:</u> Teachers pick up from cafeteria at 8:05 AM – those on duty stay on duty and their students remain in the cafeteria until all others are picked up; Recess is held in the classroom. <u>PE schedule:</u> Tuesdays and Thursdays	<u>Preschool</u> AM 8:45 – 11:45 (5 State) PM 12:45 – 3:45 <u>Opportunity</u> 9:55 – 10:10 Recess 11:30-11:50 PE 20 minutes 12:00-1:00 Lunch <u>FCOE</u> 9:55 – 10:10 Recess 11:30 – 11:50 PE 20 minutes 12:15-12:35 Lunch 12:35-1:00 Lunch Recess Active supervision in zones.	<u>Kindergarten</u> 8:30– 9:10 PE 40 minutes (Tue, Thurs) 9:10-11:00 Instruction 11:00 – 12:00 Lunch 12:00 - 1:00 Instruction 1:00- 1:20 Recess 1:20 – 3:10 Dismissal
<u>1st</u> 8:30- 10:20 Instruction 10:20- 10:35 Recess 10:35 – 11:30 Instruction 11:30 – 12:30 Lunch 12:50 – 1:30 PE 40 min (Tue, Thurs) 1:30- 3:10 Instruction	<u>2nd</u> 8:30 – 9:15 Instruction 9:15 – 9:55 PE 40 min (Tue, Thurs) 9:55 – 10:20 Instruction 10:20 – 10:35 Recess 10:35 – 11:30 Instruction 11:30 – 12:30 Lunch 12:30 – 3:10 Instruction	<u>3rd</u> 8:30- 10:20 Instruction 10:20 – 10:35 Recess 10:35 -10:45 Instruction 10:45-11:25 PE 40 minutes (Tue, Thurs) 11:25 – 12:00 Instruction 12:00 – 1:00 Lunch 1:00-3:10 Instruction
<u>4th</u> 8:30 – 10:40 Instruction 10:40 – 10:55 Recess 10:55 – 12:00 Instruction 12:00 – 1:00 Lunch 1:00 – 1:35 Instruction 1:35-2:15 PE 40 minutes (Tue, Thurs) 2:15-3:10 Instruction	<u>5th</u> 8:30 – 10:40 Instruction 10:40 – 10:55 Recess 10:55-12:30 Instruction 12:30 – 1:30 Lunch 1:30 – 3:10 Instruction 2:20 - 3:00 PE 40min (Tue, Thurs)	<u>6th</u> 8:30 – 10:40 Instruction 10:00-10:40 PE 40 minutes (Tue, Thurs) 10:40 – 10:55 Recess 10:55-12:30 Instruction 12:30 – 1:30 Lunch 1:30 –3:10 Instruction Rev 9/21/17 SN

PROJECT REPORT



On State Route 99
Between Herndon Avenue and Shaw Avenue and on Veterans Boulevard
Between Shaw Avenue and Polk Avenue
In the City of Fresno within Fresno County

I have reviewed the right of way information contained in this Draft Project Report and the R/W Data Sheet attached hereto, and find the data to be complete, current and accurate:

Nick Dumas
Acting Chief, Central Division Right of Way

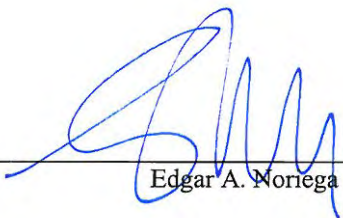
Approval Recommended:

JAMES BANE
Project Manager

Approved:

Sharri Bender Ehlert
District 6 Director

This Project Report has been prepared under the direction of the following Registered Civil Engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.



Edgar A. Noriega

2013-07-12
DATE

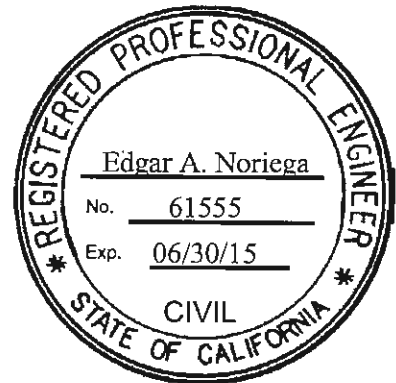


TABLE OF CONTENTS

1. INTRODUCTION	6
2. RECOMMENDATION.....	7
3. BACKGROUND.....	7
A) Project History.....	7
B) Community Interaction.....	9
C) Existing Facility	10
4. NEED AND PURPOSE.....	12
A) Problem, Deficiencies, Justification.....	12
B) Regional and System Planning.....	13
C) Traffic	15
D) Collision Analysis	24
5. ALTERNATIVES.....	27
A) Viable Alternatives	27
1. Jug-Handle Alternative	33
2. Base Alternative	35
B) No Build Alternative	37
C) Rejected Alternatives	38
6. CONSIDERATIONS REQUIRING DISCUSSION.....	39
A) Hazardous Waste.....	39
B) Value Analysis	41
C) Resource Conservation.....	41
D) Right of Way Issues	41
E) Environmental Issues	42
F) Air Quality Conformity	42
G) Title VI Considerations	42
7. OTHER CONSIDERATIONS AS APPROPRIATE	43
A) Public Hearing Process.....	43

B) Route Matters	43
C) Permits.....	43
D) Cooperative Agreements	44
E) Freeway Agreement and California Transportation Commission (CTC) Approval	45
F) Other Agreements.....	45
G) Transportation Management Plan for Use during Construction	46
H) Staged Construction	46
I) Accommodation of Oversize Loads	46
J) Graffiti Control.....	47
K) High Speed Rail.....	47
L) Phased Construction	48
8. PROGRAMMING.....	48
A) Funding.....	48
B) Project Schedule	49
9. REVIEW.....	49
10. PROJECT PERSONNEL	50
11. LIST OF ATTACHMENTS	51

TABLE OF FIGURES

Table 1-1: Project Summary Table	7
Table 4-1: Roadway Segment Conditions	16
Table 4-2: 2015 Conditions – Peak Hour Intersection Operations	17
Table 4-3: 2035 Conditions – Peak Hour Intersection Operations	19
Table 4-4: 2015 Freeway Mainline Levels of Service.....	21
Table 4-5: 2035 Freeway Mainline Levels of Service.....	22
Table 4-6 2015 Freeway Ramp Levels of Service.....	23
Table 4-7 2035 Freeway Ramp Levels of Service.....	24
Table 4-8: SR 99 Accident History (July 2008 Through June 2011).....	25
Table 4-9: SR 99/Herndon Avenue Interchange & Sr 99/Shaw Avenue Interchange Accident History (July 2008 Through June 2011)	26
Table 5-1: Design Exceptions	29
Table 5-2: Jug Handle Alternative Preliminary Cost Estimate Summary	34
Table 5-3: Veterans Extension Preliminary Cost Estimate Summary	34
Table 5-4: Right of Way Summary – Jug-Handle Alternative	35
Table 5-5: Base Alternative Preliminary Cost Estimate Summary	36
Table 5-6: Veterans Extension Preliminary Cost Estimate Summary	36
Table 5-7: Right of Way Summary – Base Alternative.....	37
Table 7-1: Permits.....	44
Table 8-1: Project Milestone Schedule	49

1. INTRODUCTION

California Department of Transportation, in cooperation with the City of Fresno proposes to construct a new interchange on State Route 99 (SR 99) at the proposed Veterans Boulevard alignment. The project is located in the northwestern portion of the City of Fresno, within central Fresno County. Veterans Boulevard would provide a southwest to northeast diagonal connection between Shaw Avenue and Herndon Avenue. Veterans Boulevard was previously known as the Grantland Diagonal and has been part of the City of Fresno's General Plan since 1984. The project is needed to provide access and improve circulation between and across, SR 99 to support current and planned urban development within the northwestern area of the City of Fresno.

The interchange and associated improvements are needed to improve traffic capacity and enhance traffic operations and mobility which would accommodate future traffic demands in the region.

The proposed interchange configuration is a Type L-9 partial clover leaf interchange with Veterans Boulevard crossing over SR 99. Veterans Boulevard is a six lane super arterial and would include a grade separation over the Union Pacific Railroad (UPRR) tracks and several connections with local streets. The preferred alternative will re-align Golden State Boulevard westerly to cross under Veterans Boulevard. To provide access between Golden State Boulevard and Veterans Boulevard, "jug-handle" shaped ramps are proposed on both sides of Veterans Boulevard connecting the roadways. The current cost estimate for the jug-handle alternative is \$115 million which includes the cost for the interchange and the extension from Shaw Avenue to Herndon Avenue.

The project is anticipated to be funded through a combination of local and federal funding sources including: Measure C sales tax funds, development impact fees, and Federal Demonstration Funds. The City of Fresno has prepared the Project Study Report in 2009 and intends to prepare Plans, Specifications and Estimates (PS&E), perform R/W capital outlay and support activities, and perform construction capital outlay and support collectively referred to as project development.

This project has been assigned the Project Development Processing Category 3 because it is a new interchange on an existing access controlled route and requires a revised freeway agreement, but not a route adoption.

**TABLE 1-1:
 PROJECT SUMMARY TABLE**

Project Limits	06-Fre-99 PM 28.88-30.11
Current Capital Outlay Support Estimate	City Funded; Consultant Prepared
Current Capital Outlay Construction Estimate	\$87,080,000
Current Capital Outlay Right-of-Way Estimate	\$28,259,000
Funding Source	Program 400.100 (Measure C)
Funding Year	2019/2020 or sooner
Type of Facility	6 lane super arterial crossing State Route 99
Number of Structures	5 total (3 within State R/W)
Environmental Determination or Document	EIR/EA (FONSI)
Legal Description	Construction on State Highway, In Fresno County, in Fresno, from 0.7 miles north of Shaw Avenue Overcrossing to 0.5 miles south of Grantland Avenue Undercrossing
Project Development Category	Category 3

2. RECOMMENDATION

It is recommended that the project be approved using the Jug Handle Alternative as described herein, and that the project proceeds to the design phase. The affected local agencies have been consulted with respect to their recommended plan, their views have been considered, and they are in general accord with the proposed plan.

3. BACKGROUND

A) Project History

The City of Fresno has recently seen an increase in growth on the west side of SR 99. Access between the west side of SR 99 and northwest Fresno is currently being provided at the existing Herndon Avenue and Shaw Avenue interchanges. The Veterans Boulevard Project has been identified to provide relief at the Herndon Avenue and Shaw Avenue interchanges and also provide a new connection to SR 99.

The 1984 Fresno General Plan identified Veterans Boulevard (previously named the Grantland Diagonal) as a future east-west super arterial in northern Fresno. The City of Fresno initiated a Feasibility Study in 1986 to identify and analyze potential

interchange/grade separation configurations, with the intention of determining the alternative best suited to the site and the proposed Veterans Boulevard (Grantland Diagonal) alignment. A PSR (PDS) was prepared in 1991 (EA 06200-36190K) for the proposed Veterans Boulevard (Grantland Diagonal) interchange with SR 99. This PSR (PDS) recommended a standard partial cloverleaf (Type L-9) interchange as the proposed interchange type.

In 2009 a PSR for the interchange, railroad overcrossing, and connection to Golden State Blvd was approved. The concepts outlined in the 2009 PSR have remained unchanged and were intended to provide conceptual approval for the following alternatives:

No Build Alternative

The No Build alternative considers that SR 99 has been improved to a six-lane freeway through the study area and that the Herndon Avenue/Golden State Boulevard intersection has been improved as identified by the City.

Minimum Alternative

The Minimum Build alternative includes the No Build improvements and considers that Veterans Boulevard has been extended over SR 99 but has no connection with SR 99. This alternative was studied to determine the incremental change in study area traffic operations between the “No Build” alternative and the “Base Alternative”.

Base Alternative

The proposed Base Alternative includes a Type L-9 partial cloverleaf interchange with Veterans Boulevard crossing over SR 99. In addition to the interchange, the proposed project includes bringing Golden State Boulevard up on-ramps to and connecting with Veterans Boulevard at an at-grade intersection approximately along the current Golden State Boulevard alignment. Both northbound and southbound Golden State Boulevard through traffic not bound to/from Veterans Boulevard would be grade-separated by bringing this traffic under Veterans Boulevard. Two additional sub-alternatives were developed, both having the Type L-9 partial cloverleaf interchange, that proposed different ways to connect Golden State Boulevard with Veterans Boulevard and are as follows:

- Alternative 2 – This alternative would provide a new connector road from Golden State Boulevard north of Veterans Boulevard to Veterans Boulevard east of Golden State Boulevard and the UPRR tracks. This alternative would require bringing the connector road under the railroad; lowering Golden State Boulevard to match grade with the connector road; construction of a new structure to bring the railroad over the connector road (underpass); construction of a temporary mainline railroad track for use during construction of the new railroad underpass structure; retaining walls in various locations, and a permanent storm water pumping station for Golden State Boulevard and the connector road.

- Alternative 3 – This alternative would provide a new connector road from Golden State Boulevard north of Veterans Boulevard to Bryan Avenue north of Veterans Boulevard east of Golden State Boulevard and the UPRR tracks. This alternative would require bringing the connector road under the railroad; lowering Golden State Boulevard to match grade with the connector road; construction of a new structure to bring the railroad over the connector road (underpass); construction of a temporary mainline railroad track for use during construction of the new railroad underpass structure; retaining walls in various locations, and a permanent storm water pumping station for Golden State Boulevard and the connector road.

In 2009, the City began the Project Approval and Environmental Document (PA&ED) project phase. During this phase, another alternative was added to the study and discussed in this report.

Veterans Boulevard and the proposed interchange with SR 99 are identified as part of the circulation system in both the City of Fresno General Plan and the Fresno County General Plan.

The proposed project is sponsored by the City of Fresno who considers the project necessary to support planned growth within the northwestern Fresno Area.

B) Community Interaction

On October 2, 2007 the City held an Open House Meeting for the Veterans Blvd/SR 99 Interchange at the River Bluff Elementary School Multi-Purpose Room located at 6150 W. Pal Alto Avenue. The purpose of this meeting was to inform the public about the history of the project and to present preliminary plans developed for the PSR.

A Notice of Preparation Meeting was held February 24th 2010 at the River Bluff Elementary School to inform the public of the City's intent to prepare an Environmental Impact Report (EIR). This project scoping meeting included stations of the alternatives developed at the PSR phase, a new alternative being introduced, and a brief presentation of the project process.

Based on comments received, the community is supportive of the project. Pedestrian crossing alternatives across Veterans Boulevard were added as a result of comments received from the residents' neighborhood south of Veterans, and east of the UPRR tracks.

On August 29, 2012, a public meeting regarding this project was held with stakeholders and the general public. City and Consultant staff presented an overview of the project, the environmental process, and highlighted how residents can comment on the environmental document. Approximately 53 attended the meeting.

C) Existing Facility

State Route 99

State Route 99 (SR 99) is a high-capacity six-lane freeway within the project vicinity. The proposed interchange has two freeway interchanges nearby: Herndon Avenue Interchange located 1 mile north and the Shaw Avenue Interchange is located 1 mile south of the proposed interchange. These grade-separated interchanges are located approximately two miles apart. SR 99 through the project area is a 6-lane freeway with a 36-foot wide median and is the principal north/south freeway in the Central Valley. SR 99 has an Average Daily Traffic (ADT) volume of approximately 65,000 vehicles in the study area.

SR 99 has a profile grade of approximately 0.28% towards Herndon Avenue through the limits of the project and the alignment is straight. The existing R/W width is 184 feet.

Herndon Avenue

Herndon Avenue, within the study area of this project, varies between a two-lane undivided and four-lane divided roadway that currently extends easterly from SR 99 through the City. Herndon Avenue is classified as an expressway in the 2025 Fresno General Plan. The City of Fresno Bicycle, Pedestrian, & Trails Master Plan recommends a Class I bicycle path along Herndon Avenue. SR 99, Herndon Avenue offers a partial access interchange with northbound and southbound off-ramps. Traffic on Herndon Avenue must use Golden State Boulevard to access SR 99 northbound or Parkway Drive to access SR 99 southbound. East of SR 99, Herndon Avenue has an ADT of approximately 21,500 vehicles.

The Herndon Avenue profile increases at 0.20% between Hayes Avenue and Polk Avenue. Just east of the Hayes Avenue intersection, the alignment has reversing 2600 foot horizontal reversing curves separated by a 100 foot tangent pushing the alignment south. West of the Polk Avenue intersection there is a 3000 foot horizontal curve pushing the alignment back to the north.

The Marketplace at El Paseo is a mixed-use, master planned development located on Herndon Avenue and Bryan Avenue (Riverside Drive). This future project would widen Herndon Avenue from 2 to 3 lanes in each direction of travel between Bryan Avenue (Riverside Drive) and Hayes Avenue.

Shaw Avenue

Shaw Avenue is a four-lane roadway east of SR 99 and a two-lane roadway west of SR 99. The 2025 Fresno General Plan classifies Shaw Avenue as an arterial. Access from Shaw Avenue to SR 99 is currently provided via a type L-8 interchange with loop off-ramps and slip on-ramps. West of SR 99, Shaw Avenue has an ADT of approximately 8,000 vehicles.

Golden State Boulevard

Golden State Boulevard begins just north of Herndon Avenue, where it transitions from the northbound SR 99 on-ramp and the southbound SR 99 off-ramp into a two-lane arterial. Golden State Boulevard has been improved to a four-lane divided roadway in the immediate vicinity of the intersection of Golden State Boulevard and Herndon Avenue.

Within the project area, Golden State Boulevard runs parallel to SR 99, east of the freeway and west of the UPRR tracks. The 2025 Fresno General Plan classifies Golden State Boulevard as a collector. Golden State Boulevard has an ADT of approximately 4,000 vehicles.

The proposed project would provide full access between Golden State Boulevard and Veterans Boulevard.

Veterans Boulevard

The 2025 Fresno General Plan classifies Veterans Boulevard as a six-lane super arterial and there are two small segments already constructed. On the east side of SR 99, approximately 800 feet of Veterans Boulevard has been constructed in association with residential development between Hayes Avenue and Wathen Avenue. On the west side of SR 99, approximately 1300 feet of Veterans Boulevard has been constructed including the Bryan Avenue/Barstow Avenue/Veterans Boulevard intersection.

The proposed project would construct Veterans Boulevard from the Herndon Avenue/Polk southwest to Shaw Avenue and would include a grade separation at the UPRR tracks and a new interchange at SR 99. New intersections are proposed at Herndon Avenue/Veterans Boulevard, Bryan Avenue (Riverside Drive)/Bullard Avenue/Veterans Boulevard, Golden State Boulevard/Veterans Boulevard, SR 99 Southbound ramps, SR 99 NB ramps, Barstow Avenue/Veterans Boulevard, and Shaw Avenue/Veterans Boulevard.

Bryan Avenue (Riverside Drive)

Bryan Avenue is a north-south roadway that provides access to residential areas on the west and east sides of SR 99. The City of Fresno has renamed Bryan Avenue, east of SR99, to Riverside Drive. On the east side of SR 99, Bryan Avenue (Riverside Drive) is a two-lane arterial providing a connection between Herndon Avenue and Palo Alto Avenue. The 2025 Fresno General Plan proposes to extend Bryan Avenue (Riverside Drive) to Veterans Boulevard. Bryan Avenue west of SR 99 provides access to a residential neighborhood.

Bullard Avenue

Bullard Avenue is a four-lane divided east-west arterial that provides access to many residential areas east of SR 99 between Shaw Avenue and Herndon Avenue. Currently

Bullard Avenue terminates west of the Carnegie Avenue intersection at the limit of the residential housing. Bullard Avenue has an ADT of approximately 7,000 vehicles.

The 2025 Fresno General Plan depicts Bullard Avenue being extended west to Veterans Boulevard where it would meet up with Riverside Drive to form a new signalized intersection. The Marketplace at El Paseo is responsible for constructing portions of this connection with their improvements.

Barstow Avenue

Barstow Avenue is an east-west collector located on the west side of SR 99 and intersects Veterans Boulevard in two separate locations. West of Veterans Boulevard, Barstow Avenue is a two-lane roadway connecting to Grantland Avenue providing access to several large parcels. Barstow Avenue is also the east leg of the Veterans Avenue/Bryan Avenue/Barstow Avenue intersection that continues east and eventually turns into Parkway Drive.

Barstow Avenue west of Veterans Boulevard is proposed to be re-aligned into a right-in/right-out only condition with Veterans Boulevard. This realignment would provide separation between the two Barstow Avenue intersections allowing the signals to operate efficiently.

4. NEED AND PURPOSE

A) Problem, Deficiencies, Justification

The proposed interchange is located between two freeway interchanges nearby: Herndon Avenue to the north and Shaw Avenue to the south. These existing grade-separated interchanges are located approximately two and a half miles apart. Currently, many of the connections to State Route 99 offer only partial access and are limited in their ability to accommodate future demand. Crossing State Route 99 is problematic since many of the crossing locations are currently more than one mile apart and the capacity of these crossings is limited. Connections are also limited by the Union Pacific Railroad tracks that run parallel to State Route 99. These additional movements on local roads and highways contribute to overall congestion in the area and an increase in Vehicle Miles Travelled. The proposed project would add, enhance, and improve circulation network choices for local motorists to more quickly access and leave the regional State Route 99 mainline. Congestion would then drop as vehicles disperse over a broader local circulation network.

The purpose of the project is to:

- Improve accessibility to SR-99 and circulation to roads adjacent to the proposed interchange in northwestern Fresno;

- Provide congestion relief and improved traffic flow in northwest Fresno;
- Accommodate local development and provide consistency with existing and planned local and regional development.

B) Regional and System Planning

I. Identify Systems

SR 99 became part of the State Highway System (SHS) in 1909 and the California Freeway and Expressway System in 1959. A major route in the most productive agricultural region in the world, SR 99 is critical to the economic vitality of the State. SR 99 is heavily used by interregional travelers, commuters, recreational travelers, and goods movement, with the Annual Average Daily Traffic (AADT) ranging from 30,000 to 109,000, with trucks constituting up to 29 percent of the AADT.

SR 99 is also a “High Emphasis Route” and “Focus Route” on the 1989 established Interregional Road System; is on the National Highway System (NHS) (except for a 56-mile section in Caltrans District 3); is on the National Network for State Transportation Assistance Act (STAA) Trucks; is identified as an Intermodal Corridor of Economic Significance (ICES) between I-5 south of Bakersfield and US 50 in Sacramento; and is a “Priority Global Gateway” for goods movement in the Global Gateways Development Program. SR 99 is functionally classified as a Principal Arterial for its entire length and is on the Strategic Highway Corridor Network (STRAHNET) under the Federal-aid Surface Transportation Program south of SR 4 in Stockton. SR 99 is not designated as a scenic highway.

II. State Planning

SR 99 is the principal north/south freeway in the Central Valley. In Caltrans District 6, SR 99 extends 173 miles from the I-5 junction in Kern County north to the Madera/Merced County Line. Within District 6, SR 99 traverses through the central areas of Kern, Tulare, Fresno and Madera Counties and travels through the urban centers of Bakersfield, Tulare, Visalia, Fresno and Madera. SR 99 is important as a major lifeline route for industrial, commercial and agricultural purposes and serves as a major commuter route within and between cities located along its length.

The proposed SR 99/Veterans Boulevard interchange is located at PM 29.5, within Segment 30, in the SR 99 Transportation Concept Report (TCR) (District 6, November 2003). Segment 30 extends from Fresno PM 26.6 (Ashlan Avenue O.C.) to PM 31.6 (at Madera County Line). Segment 30 is located within an “Urban” area. Both the Facility 2025 Concept and the Ultimate Transportation Corridor (UTC) are six-lane freeways with auxiliary lanes, and the 2025 Concept Level of Service (LOS) is “D”. In April 2009, Caltrans prepared a Corridor System Management Plan for SR 99. The UTC for segment 30 was revised to be an eight-lane freeway with auxiliary lanes and 2030 concept LOS “D”. The TCR identifies proposed traffic monitoring stations on SR 99 at Shaw Avenue and Herndon Avenue; ramp meeting locations at Shaw Avenue (both

northbound and southbound) and Herndon Avenue/Grantland Avenue (southbound only); closed circuit television locations at Shaw Avenue and Herndon Avenue; and a changeable message sign location on SR 99 at Barstow Avenue (southbound). Though the TCR does not identify any of these features at the proposed Veterans Boulevard interchange, the project includes provisions for ramp metering on all on-ramps.

The proposed SR 99/Veterans Boulevard interchange is identified as the “Grantland Diagonal” in the Route 99 Corridor Enhancement Master Plan. It has been recognized as a Regional Transportation Plan Project Candidates for District 6 and the Route 99 Corridor Business Plan (Final Draft) as a Priority Category 2: Capacity-Increasing Projects. This project is also identified in the Council of Fresno County Governments “2007 Regional Transportation Plan” (RTP) as a Regionally Significant Projects; and in the Measure “C” Extension Expenditure Plan, Regional Transportation Funding Program – Urban Tier 1, Project Identifier MM.

III. Regional Planning

The Council of Fresno County Governments “2007 Regional Transportation Plan” (RTP) identifies Veterans Boulevard as a proposed future route in the County’s Regionally Significant Road System. The RTP defines Veterans Boulevard from Ashlan Avenue to Herndon Avenue as a new six-lane divided super arterial. The proposed project is located within the Veterans Boulevard segment that extends from Barstow Avenue to Bullard-Bryan (Riverside Drive) which is listed in the RTP as a Regionally Significant Projects. The RTP also identifies Veterans Boulevard from Herndon Avenue to Grantland Avenue (including the proposed project) as included in the Measure “C” Extension Expenditure Plan, Regional Transportation Funding Program – Urban Tier 1, Project Identifier N.

IV. Local Planning

This project has been coordinating with local planned projects including the El Paseo Marketplace and preliminary engineering at the Veterans Boulevard/Barstow Avenue intersection.

The Central Unified School District is in the planning phase for a pedestrian undercrossing across Veterans Boulevard. The following potential crossing locations have been identified:

- o At Wathen/Veterans intersection
- o At the Hayes/Veterans intersection
- o East of Hayes/Veterans intersection

V. Transit Operator Planning

High Occupancy Vehicle (HOV) bypass lanes are proposed at both northbound on-ramps and the southbound diagonal on-ramp which would reduce congestion and allows for HOV preference resulting in operational efficiencies.

Bus bays would be provided at major intersections to accommodate a future Fresno Area Express (FAX) bus route.

C) Traffic

The Final Traffic Operations Report (TOR) for the SR 99/Veterans Boulevard Interchange was approved by District 6 in December 2010. The project study area includes the following freeway segments, interchanges (including ramps terminal intersections), and local roadways facilities:

Existing Traffic Analysis and Future Traffic Conditions

The existing (year 2009), Opening Year (year 2015), and Design Year (year 2035) daily and peak hour presented in the tables below. The opening year and design year traffic volumes represent the forecasted numbers based on anticipated growth in the area surrounding the interchange.

Key roadway improvements assumed to be in place for the opening year (2015) includes:

- Shaw Avenue widened to four lanes from Grantland Avenue to Polk Avenue
- Herndon Avenue widened to six lanes from Golden State Boulevard to Veterans Boulevard
- Veterans Boulevard constructed as a six-lane roadway from Herndon Avenue to Golden State Boulevard
- Veterans Boulevard constructed as a six-lane roadway from Bryan Avenue/Barstow Avenue to Shaw Avenue
- Veterans Boulevard constructed as a four-lane roadway from Shaw Avenue to Grantland Avenue
- Interchange improvements to the SR 99 and Herndon Avenue associated with the El Paseo development including the closure of the southbound SR 99 off-ramp at Grantland Avenue

Key roadway improvements assumed to be in place for the design year (2035) includes:

- Shaw Avenue widened to four lanes from Grantland Avenue to Polk Avenue
- Herndon Avenue widened to six lanes from Golden State Boulevard to Veterans Boulevard
- Veterans Boulevard constructed as a six-lane roadway from Herndon Avenue to Golden State Boulevard
- Veterans Boulevard constructed as a six-lane roadway from Bryan Avenue/Barstow Avenue to Shaw Avenue
- Veterans Boulevard constructed as a four-lane roadway from Shaw Avenue to Grantland Avenue
- SR 99 widened to six lanes between Ashlan Avenue and the Madera County line
- Interchange improvements to the SR 99 and Herndon Avenue interchange

After completion of the TOR, funding for the widening SR 99 to six lanes between Ashlan Avenue and the Madera County line was obtained by Fresno COG and is projected to be completed before 2015 Conditions. It should be noted that the completion of the SR 99 Widening Project before opening year (2015) conditions would not change the No Project and With Project Average Annual Daily Traffic (AADT) volumes presented in Table 4-1.

Table 4-1 summarizes the existing count data for the daily, AM peak hour, and PM peak hour at each count location and the daily, AM peak hour, and PM peak hour forecasts for the Opening Year (2015) and Design Year (2035) conditions.

TABLE 4-1: ROADWAY SEGMENT CONDITIONS										
Roadway Segment	Existing Conditions		Year 2015 Conditions				Year 2035 Conditions			
	AADT	Peak Hour Volume	No Project		With Project ³		No Project		With Project ³	
			AADT	Peak Hour Volume	AADT	Peak Hour Volume	AADT	Peak Hour Volume	AADT	Peak Hour Volume
1. Grantland Ave. – Ashlan Ave. to Herndon Ave.	5,169	568 (493)	9,010	810 (810)	5,650	670 (610)	24,360	1,810 (1,980)	7,540	1,100 (990)
2. Ashlan Ave. – Grantland Ave. to SR 99	18,053	1,416 (1,515)	22,410	2,050 (2,210)	21,670	2,070 (2,220)	39,790	2,070 (2,040)	36,100	2,160 (2,100)
3. Shaw Ave. – Grantland Ave. to SR 99	8,221	600 (713)	14,460	1,680 (2,260)	15,780	1,840 (2,340)	39,410	2,820 (3,250)	45,970	3,630 (3,650)
4. Barstow Ave. – Grantland Ave. to N. Parkway Dr.	542	39 (50)	1,510	260 (340)	1,250	250 (310)	5,360	330 (460)	4,060	260 (310)
5. Herndon Ave. – Grantland Ave. to Veterans Blvd.	21,438	1,794 (1,800)	26,180	2,810 (2,930)	23,430	2,610 (2,750)	45,010	5,380 (5,690)	31,360	4,340 (4,800)
6. Bullard Ave. – Herndon Ave. to Polk Ave.	7,238	521 (674)	8,340	460 (600)	9,120	650 (810)	12,720	1,260 (1,550)	16,620	2,230 (2,600)
7. Golden State Blvd. – Herndon Ave. to Shaw Ave.	3,614	298 (297)	6,490	680 (760)	7,140	520 (650)	17,980	1,640 (2,030)	21,210	840 (1,470)
8. Veterans Blvd. – Bullard Ave. to SR 99	NA ²	NA (NA)	3,570	340 (420)	14,020	1,020 (1,000)	17,850	1,690 (2,090)	70,090	5,090 (4,970)
Notes: ¹ AM = Morning peak-hour, (PM = Evening peak-hour). ² NA = Not Applicable ³ Traffic volumes the same for all project alternatives Source: Fehr & Peers, October 2010.										

Intersection Operations

Table 4-2 presents the intersection levels of service for the opening year (2015) conditions. The table shows that for the “No Build” condition, four study intersections

(along Shaw Avenue) operate unacceptably (LOS E or worse) during one of the peak hours.

Although the same intersections continue to operate unacceptably with construction of the proposed SR 99 / Veterans Boulevard interchange, the interchange construction improves operations (delay) at several intersections. The SR 99 ramp terminal intersections at Veterans Boulevard would both operate at LOS A. In addition, the completion of the SR 99 Widening Project would not change the results of the intersection operations for opening year (2015) Am and PM peak hour conditions.

**TABLE 4-2:
2015 CONDITIONS – PEAK HOUR INTERSECTION OPERATIONS**

Intersection	Traffic Control	No Build				Base Alternative				Jug Handle Alternative				Alternative 2				Alternative 3			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Shaw Ave. / Polk Ave.	Signal	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F
2. Shaw Ave. / SR 99 SB Ramps	Signal	>150	F	>150	F	>150	F	111	F	>150	F	111	F	>150	F	111	F	>150	F	111	F
3. Shaw Ave. / SR 99 NB Ramps	Signal	47	D	>150	F	39	D	122	F	39	D	122	F	39	D	122	F	39	D	122	F
4. Shaw Ave. / Golden State Blvd.	Signal	51	D	>150	F	53	D	141	F	53	D	141	F	53	D	141	F	53	D	141	F
5. Herndon Ave. / Parkway Dr.	Signal	13	B	9	A	12	B	13	B	12	B	13	B	12	B	13	B	12	B	13	B
7. Herndon Ave. / SR 99 NB Off-Ramp	Signal	15	B	13	B	8	A	11	B	8	A	11	B	8	A	11	B	8	A	11	B
8. Herndon Ave. / Golden State Blvd.	Signal	28	C	35	C	23	C	29	C	23	C	29	C	23	C	29	C	23	C	29	C
9. Parkway Dr./SR 99 SB On-Ramp / Grantland Ave.	Signal	10	A	7	A	8	A	5	A	8	A	5	A	8	A	5	A	8	A	5	A
10. Herndon Ave. / Polk Ave.	Signal	32	C	37	D	33	C	37	D	33	C	37	D	33	C	37	D	33	C	37	D
11. Veterans Blvd. / Grantland Ave.	Signal	26	C	25	C	20	B	19	B	20	B	19	B	20	B	19	B	20	B	19	B
12. Veterans Blvd. / Shaw Ave.	Signal	27	C	28	C	29	C	32	C	29	C	32	C	29	C	32	C	29	C	32	C
13. Veterans Blvd. / Bryan Ave./Barstow Ave.	Signal	8	A	8	A	22	C	23	C	22	C	23	C	22	C	23	C	22	C	23	C
14. Veterans Blvd. /SR 99 SB Ramps	Signal	NA		NA		5	A	6	A	5	A	6	A	5	A	6	A	5	A	6	A
15. Veterans Blvd. / SR 99 NB Ramps	Signal	NA		NA		6	A	6	A	6	A	6	A	6	A	6	A	6	A	6	A

TABLE 4-2 (CONTINUED)
2015 CONDITIONS – PEAK HOUR INTERSECTION OPERATIONS

Intersection	Traffic Control	No Build				Base Alternative				Jug Handle Alternative				Alternative 2				Alternative 3			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
16. Veterans Blvd. / Golden State Blvd.	Signal	19	B	19	B	8	A	10	A	2	A	2	A	8	A	9	A	NA		NA	
17. Veterans Blvd. / Bullard Ave.	Signal	22	C	22	C	19	B	20	B	19	B	20	B	19	B	20	B	25	C	27	C
18. Veterans Blvd. / Wathen Ave.	Side Stop	9 NBR (1)	A	9 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A	10 NBR (1)	A
19. Veterans Blvd. / Hayes Ave.	Signal	24	C	21	C	23	C	23	C	23	C	23	C	23	C	23	C	23	C	23	C
20. Veterans Blvd. / Herndon Ave.	Signal	8	A	8	A	10	A	10	A	10	A	10	A	10	A	10	A	10	A	10	A
21. Veterans Blvd Jug Handle./Golden State Blvd	Signal	NA		NA		NA		NA		NA		NA		31	C	28	C	31	C	28	C
22. Jug Handle North/Golden State Blvd.	Signal	NA		NA		NA		NA		24	C	23	C	NA		NA		NA		NA	
23. Jug Handle South/Golden State Blvd	Signal	NA		NA		NA		NA		23	C	21	C	NA		NA		NA		NA	

Notes: ¹ For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the worst movement is reported in seconds per vehicle.
² Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
³ Delays greater than 2.5 minutes are not reported due to model insensitivity under extreme congestion.
BOLD text indicates unacceptable operations

Source: Fehr & Peers, 2010.

Table 4-3 presents the intersection levels of service for the design year (2035) conditions. The table shows that for the No Build Alternative 10 of 18 study intersections operate unacceptably (LOS E or worse) during one or both of the peak hours.

For the Base Alternative, the 11 of 20 study intersections operate unacceptably (LOS E or worse) during one or both of the peak hours including the Veterans Blvd/Golden State Blvd Intersection.

For the Jug Handle Alternative, the 10 of 22 study intersections operate unacceptably (LOS E or worse) during one of the peak hours with this alternative, the Veterans Blvd/Golden State Blvd intersection operates at LOS A during both peak hours.

For Alternative 2, the 11 of 20 study intersections operate unacceptably (LOS E or worse) during one or both of the peak hours including the veterans Blvd/Bullard Avenue and the Veterans Blvd Jug-Handle/Golden State Blvd intersections.

For Alternative 3, the 11 of 20 study intersections operate unacceptably (LOS E or worse) during one or both of the peak hours including the Veterans Blvd/Bullard Avenue and the Veterans Blvd Jug-Handle/Golden State Blvd intersections.

The construction of the Veterans Boulevard interchange causes operations to improve at several intersections; however, LOS becomes worse at some intersections as a result of the interchange providing access to SR 99.

**TABLE 4-3:
2035 CONDITIONS – PEAK HOUR INTERSECTION OPERATIONS**

Intersection	Traffic Control	No Build				Base Alternative				Jug Handle Alternative				Alternative 2				Alternative 3			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Shaw Ave. / Polk Ave.	Signal	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F	>150 ³	F
2. Shaw Ave. / SR 99 SB Ramps	Signal	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F
3. Shaw Ave. / SR 99 NB Ramps	Signal	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F
4. Shaw Ave. / Golden State Blvd.	Signal	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F	>150	F
5. Herndon Ave. / Parkway Dr.	Signal	>150	F	47	D	21	C	9	A	21	C	9	A	21	C	9	A	21	C	9	A
• Herndon Ave. / SR 99 NB Off-Ramp	Signal	>150	F	>150	F	54	D	19	B	54	D	19	B	54	D	19	B	54	D	19	B
• Herndon Ave. / Golden State Blvd.	Signal	106	F	150	F	63	E	90	F	63	E	90	F	63	E	90	F	63	E	90	F
• Parkway Dr./SR 99 SB On-Ramp / Grantland Ave.	Signal	>150	F	136	F	65	E	11	B	65	E	11	B	65	E	11	B	65	E	11	B
• Herndon Ave. / Polk Ave.	Signal	47	D	86	F	96	F	142	F	96	F	142	F	96	F	142	F	96	F	142	F
• Veterans Blvd. / Grantland Ave.	Signal	38	D	63	E	29	C	50	D	29	C	50	D	29	C	50	D	29	C	50	D
• Veterans Blvd. / Shaw Ave.	Signal	34	C	51	D	48	D	78	E	48	D	78	E	48	D	78	E	48	D	78	E

**TABLE 4-3:
2035 CONDITIONS – PEAK HOUR INTERSECTION OPERATIONS**

Intersection	Traffic Control	No Build				Base Alternative				Jug Handle Alternative				Alternative 2				Alternative 3			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay ¹	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
• Veterans Blvd. / Bryan Ave./Barstow Ave.	Signal	27	C	31	C	90	F	73	E	90	F	73	E	90	F	73	E	90	F	73	E
• Veterans Blvd. /SR 99 SB Ramps	Signal	NA		NA		22	C	41	D	22	C	41	D	22	C	41	D	22	C	41	D
• Veterans Blvd. /SR 99 NB Ramps	Signal	NA		NA		29	C	26	C	29	C	26	C	29	C	26	C	29	C	26	C
• Veterans Blvd. / Golden State Blvd.	Signal	29	C	40	D	27	C	56	E	5	A	10	A	40		46		NA		NA	
• Veterans Blvd. / Bullard Ave.	Signal	24	C	24	C	74	E	66	E	74	E	66	E	74	E	66	E	107	F	129	F
• Veterans Blvd. / Wathen Ave.	Side Stop	10 NBR (1)	B	10 NBR (1)	B	19 NBR (1)	C	17 NBR (1)	C	19 NBR (1)	C	17 NBR (1)	C	19 NBR (1)	C	17 NBR (1)	C	19 NBR (1)	C	17 NBR (1)	C
• Veterans Blvd. / Hayes Ave.	Signal	25	C	23	C	42	D	46	D	42	D	46	D	42	D	46	D	42	D	46	D
• Veterans Blvd. / Herndon Ave.	Signal	14	B	16	B	19	B	18	B	19	B	18	B	19	B	18	B	19	B	18	B
• Veterans Blvd / Jug Handle./Golden State Blvd	Signal	NA		NA		NA		NA		NA		NA		29	C	63	E	35	D	72	E
• Jug Handle North/Golden State Blvd.	Signal	NA		NA		NA		NA		26	C	39	D	NA		NA		NA		NA	
• Jug Handle South/Golden State Blvd	Signal	NA		NA		NA		NA		21	C	29	C	NA		NA		NA		NA	

Notes: ¹ For signalized intersections, the overall average intersection control delay is reported in seconds per vehicle. For side-street stop control, the average control delay for the worst movement is reported in seconds per vehicle.
² Level of Service based on Highway Capacity Manual (Transportation Research Board, 2000).
³ Delays greater than 2.5 minutes are not reported due to model insensitivity under extreme congestion.
BOLD text indicates unacceptable operations

Source: Fehr & Peers, 2010.

Freeway Mainline Operations

Table 4-4 presents the Opening Year (2015) SR 99 mainline levels of service (LOS) for the No Project and Plus Project scenarios. The freeway mainline LOS is the same for all plan project alternatives. As shown in Table 4-4, all of the study freeway mainline segments operate at acceptable LOS D or better during both AM and PM peak hours

under 2015 No Project and 2015 Plus Project conditions, as defined by Caltrans' evaluation criteria.

In the *Guide for the Preparation of Traffic Impact Study* (Caltrans, December 2002), Caltrans endeavors to maintain a target level of service between LOS C and LOS Don State Highway Facilities.

The completion of the SR 99 Widening Project prior to opening year (2015) conditions would marginally improve freeway mainline level of service conditions. The construction of the Veterans Boulevard interchange does not change the level of service on any of the study freeway mainline segments in 2015, with all the study freeway mainline segments operating at acceptable LOS D or better during both AM and PM peak hours under 2015 No Project and 2015 Plus Project conditions.

TABLE 4-4: 2015 FREEWAY MAINLINE LEVELS OF SERVICE											
Freeway Segment	Number of Lanes		Peak Hour ¹	Volume		Density ²		Speed ³		Level of Service	
	No Project	Plus Project		No Project	Plus Project	No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. SR 99 NB between Shaw Avenue and Veterans Blvd	2	2	AM PM	2,560 3,010	2,540 3,140	23.4 27.9	25.2 31.3	63.0 62.6	58.0 57.8	C D	C D
2. SR 99 NB between Veterans Blvd and Herndon Blvd	2	2	AM PM	2,560 3,010	2,540 2,960	23.4 27.9	25.2 29.4	63.0 62.6	58.0 58.0	C D	C D
3. SR 99 SB between Herndon Avenue and Veterans Blvd	2	2	AM PM	2,860 2,970	2,840 2,980	26.2 27.3	28.2 29.6	62.9 62.7	58.0 58.0	D D	D D
4. SR 99 SB between Veterans Blvd and Shaw Avenue	2	2	AM PM	2,860 2,970	3,010 2,990	26.2 27.3	29.9 29.7	62.9 62.7	58.0 58.0	D D	D D
Notes: ¹ AM = Morning peak-hour, PM = Evening peak-hour. ² Average density reported in passenger cars per mile per lane (veh/mi/ln). ³ Average passenger-car travel speed in miles per hour (mph). Source: Fehr & Peers, 2010.											

Table 4-5 presents the Build Year (2035) SR 99 mainline levels of service for the No Project and Plus Project scenarios. The freeway mainline LOS is the same for all project alternatives. As shown in Table 4-5, all of the study freeway mainline segments operate at LOS E during either the AM and PM peak hours under 2035 No project and 2035 Plus Project conditions. The construction of the Veterans Boulevard interchange improves the level of service on the following study freeway mainline segments:

- SR 99 northbound between Shaw Avenue and Veterans Boulevard (AM peak hour)
- SR 99 northbound between Veterans Boulevard and Herndon Avenue (PM peak hour)
- SR 99 southbound between Herndon Avenue and Veterans Boulevard (AM peak hour)

**TABLE 4-5:
2035 FREEWAY MAINLINE LEVELS OF SERVICE**

Freeway Segment	Number of Lanes		Peak Hour ¹	Volume		Density ²		Speed ³		Level of Service	
	No Project	Plus Project		No Project	Plus Project	No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. SR 99 NB between Shaw Avenue and Veterans Blvd	3	3	AM PM	5,310 5,400	5,230 5,900	35.8 36.7	35.0 43.7	59.5 56.4	57.4 51.9	E E	D E
2. SR 99 NB between Veterans Blvd and Herndon Ave	3	3	AM PM	5,310 5,400	5,290 5,180	35.8 36.7	35.6 34.5	59.5 56.4	57.1 57.7	E E	E D
3. SR 99 SB between Herndon Avenue and Veterans Blvd	3	3	AM PM	5,310 5,760	5,200 5,800	35.8 41.4	34.7 42.0	59.5 53.4	57.6 53.0	E E	D E
4. SR 99 SB between Veterans Blvd and Shaw Avenue	3	3	AM PM	5,310 5,760	5,810 5,860	35.8 41.4	42.2 43.0	59.5 53.4	52.9 52.4	E E	E E

Notes: ¹ AM = Morning peak-hour, PM = Evening peak-hour.
² Average density reported in passenger cars per mile per lane (veh/mi/ln).
³ Average passenger-car travel speed in miles per hour (mph).
Source: Fehr & Peers, 2010

Freeway Ramps

Table 4-6 presents the freeway ramp levels of service for Opening Year (2015) Conditions. The freeway ramp LOS is the same for all project alternatives. As shown in Table 4-6, all of the study freeway ramps acceptable at LOS D or better during both AM and PM peak hours under 2015 No Project and 2015 Plus Project conditions, as defined by Caltrans' evaluation criteria.

The completion of the SR 99 Widening Project prior to opening year (2015) conditions would marginally improve freeway mainline level of service conditions. The construction of the Veterans Boulevard interchange does not change the level of service on any of the study freeway ramps in 2015, with all the study freeway mainline segments operating at acceptable LOS D or better during both AM and PM peak hours under 2015 No Project and 2015 Plus Project conditions.

TABLE 4-6
2015 FREEWAY RAMP LEVELS OF SERVICE

Freeway Ramp	Peak Hour ¹	Merge/Diverge	Density ²		Speed ³		Level of Service	
			No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. SR 99 NB Shaw Avenue On-Ramp	AM PM	Merge	25.4 29.6	25.4 30.7	56.6 55.4	56.6 55.0	C D	C D
2. SR 99 NB Veterans Blvd Off-Ramp	AM PM	Diverge	--	14.2 20.2	--	54.4 54.3	--	B C
3. SR 99 NB Veterans Blvd Loop On-Ramp	AM PM	Merge	--	23.6 28.1	--	57.0 56.0	--	C D
4. SR 99 NB Veterans Blvd Slip On-Ramp	AM PM	Merge	--	24.4 28.3	--	56.9 55.9	--	C D
5. SR 99 NB Herndon Avenue Off-Ramp	AM PM	Diverge	28.3 32.9	28.1 32.2	56.5 55.7	54.1 53.5	D D	D D
6. SR 99 NB Golden State Boulevard On-Ramp	AM PM	Merge	29.6 29.6	29.9 29.5	58.3 58.4	55.3 55.5	D D	D D
7. SR 99 SB Golden State Boulevard Off-Ramp	AM PM	Diverge	30.4 36.0 (26.3) ⁴	30.1 35.9 (26.2) ⁴	56.1 55.8 (55.8) ⁴	53.7 53.4 (53.4) ⁴	D E (C) ⁴	D E (C) ⁴
8. SR 99 SB Herndon Avenue On-Ramp	AM PM	Merge	29.0 30.3	28.9 30.4	58.6 58.2	55.7 55.3	D D	D D
9. SR 99 SB Veterans Blvd Off-Ramp	AM PM	Diverge	--	15.3 16.7	--	54.6 54.3	--	B B
10. SR 99 SB Veterans Blvd Loop On-Ramp	AM PM	Merge	--	22.2 22.2	--	57.4 57.4	--	C C
11. SR 99 SB Veterans Blvd Slip On-Ramp	AM PM	Merge	--	23.1 22.9	--	57.2 57.2	--	C C
12. SR 99 SB Shaw Avenue Off-Ramp	AM PM	Diverge	31.2 32.3	32.7 32.5	54.1 53.7	54.4 54.1	D D	D D

Notes: ¹ AM = Morning peak-hour, PM = Evening peak-hour.
² Average density reported in passenger cars per mile per lane (veh/mi/ln).
³ Space mean speed of vehicles within ramp influence area in miles per hour (mph).
⁴ With SR 99 widening from two to three travel lanes in each direction through the project study area

Source: Fehr & Peers, 2010.

Table 4-7 presents the freeway ramp levels of service for Design Year (2035) Conditions. The freeway ramp LOS is the same for all plus project alternatives. As shown in Table 4-7, all of the study freeway ramps operate at LOS E during either the AM or PM peak hours under 2035 No Project conditions. With the construction of the Veterans Boulevard Interchange, these ramp junctions continue to operate at LOS E. All of the Veterans Boulevard ramps operate at LOS D or better.

**TABLE 4-7
2035 FREEWAY RAMP LEVELS OF SERVICE**

Freeway Ramp	Peak Hour ¹	Merge/Diverge	Density ²		Speed ³		Level of Service	
			No Project	Plus Project	No Project	Plus Project	No Project	Plus Project
1. SR 99 NB Shaw Avenue On-Ramp	AM PM	Merge	35.1 34.9	34.7 38.8	52.2 52.5	52.8 49.0	E D	D E
2. SR 99 NB Veterans Blvd Off-Ramp	AM PM	Diverge	--	19.2 24.3	--	52.2 52.1	--	B C
3. SR 99 NB Veterans Blvd Loop On-Ramp	AM PM	Merge	--	30.2 29.7	--	55.0 55.3	--	D D
4. SR 99 NB Veterans Blvd Slip On-Ramp	AM PM	Merge	--	32.0 30.0	--	54.1 55.2	--	D D
5. SR 99 NB Herndon Avenue Off-Ramp	AM PM	Diverge	37.4 38.5	36.0 35.9	52.9 52.0	53.6 52.8	E E	E E
6. SR 99 NB Golden State Boulevard On-Ramp	AM PM	Merge	36.6 35.7	37.5 35.4	51.4 52.1	50.6 52.4	E E	E E
7. SR 99 SB Golden State Boulevard Off-Ramp	AM PM	Diverge	37.0 42.2	35.8 42.0	52.1 52.4	52.8 52.6	E F	E F
8. SR 99 SB Herndon Avenue On-Ramp	AM PM	Merge	35.8 36.1	34.4 36.2	52.2 52.2	53.2 52.1	E E	D E
9. SR 99 SB Veterans Blvd Off-Ramp	AM PM	Diverge	--	15.5 21.4	--	53.1 52.1	--	B C
10. SR 99 SB Veterans Blvd Loop On-Ramp	AM PM	Merge	--	29.9 30.4	--	52.6 52.0	--	D D
11. SR 99 SB Veterans Blvd Slip On-Ramp	AM PM	Merge	--	29.2 29.3	--	53.7 53.6	--	D D
12. SR 99 SB Shaw Avenue Off-Ramp	AM PM	Diverge	36.5 39.4	37.9 38.4	52.8 51.7	53.6 53.1	E E	E E

Notes: ¹ AM = Morning peak-hour, PM = Evening peak-hour.
² Average density reported in passenger cars per mile per lane (veh/mi/ln).
³ Space mean speed of vehicles within ramp influence area in miles per hour (mph).
Source: Fehr & Peers, 2010

D) Collision Analysis

Mark Thomas and Company obtained a summary of accident data from Caltrans for the three-year period beginning July 1, 2008, through June 30, 2011, for the segments of SR 99 within the study area. Table 4-8 summarizes the accident history for the freeway segments.

**TABLE 4-8:
 SR 99 ACCIDENT HISTORY
 (JULY 2008 THROUGH JUNE 2011)**

Location	Accidents				Accident Rate	
	Total	With Fatalities	With Injuries	Involving Multiple Vehicles	Actual Accident Rate ¹	Average Accident Rate for Similar Facilities ²
SR 99 – Shaw Ave. to Herndon Ave. (2.89 mi.)	17	0	4	12	0.21	0.50
Note: ¹ Per million vehicle miles ² Average accident rate based on similar facilities per million vehicle miles Source: Caltrans District 6 TASAS Table B, July 2008 through June 2011						

On SR 99 between Shaw Avenue and Herndon Avenue, the actual accident rate is below the average accident rate for similar facilities. The 4 accidents with injuries resulted in 5 persons injured. Five of the 17 accidents were rear end collisions, while 6 of the 17 accidents were hit object collisions. Other stated collision types include sideswipe (4) and broadside (1). The primary collision factors were improper turns (7 of 17 accidents) and speeding (5 of 17 accidents). Another known primary collision factor was the influence of alcohol (1).

Table 4-9 shows the collision history for the study interchange ramps over the three-year period between July 2008 and June 2011, totaling to 16 accidents.

At the SR 99 / Herndon Avenue northbound off-ramp, the actual accident rate is below the average accident rate for similar facilities. The 2 accidents with injuries resulted in 3 persons injured. All 4 accidents were rear end collisions. The primary collision factor was speeding (2). Another known primary collision factor was the influence of alcohol (1).

At the SR 99 / Herndon Avenue southbound on-ramp, the actual accident rate is above the average accident rate for similar facilities. No accidents posted had injuries. Of the 3 accidents, 1 was a rear end collision, 1 was a broadside collision, and 1 was a hit object collision. The primary collision factor was the influence of alcohol (2) and the secondary collision factor was speeding (1).

TABLE 4-9: SR 99/HERNDON AVENUE INTERCHANGE & SR 99/SHAW AVENUE INTERCHANGE ACCIDENT HISTORY (JULY 2008 THROUGH JUNE 2011)						
Location	Accidents				Accident Rate	
	Total	With Fatalities	With Injuries	Involving Multiple Vehicles	Actual Accident Rate ¹	Average Accident Rate for Similar Facilities ²
SR 99 / Herndon Ave. NB Off-Ramp	4	0	2	4	0.67	1.01
SR 99 / Herndon Ave. SB On-Ramp	3	0	0	2	0.46	0.41
SR 99 / Shaw Ave. NB On-Ramp	3	0	1	2	0.55	0.63
SR 99 / Shaw Ave. SB Off-Ramp	6	0	2	3	1.40	1.00
Note: ¹ Per million vehicle ² Average accident rate based on similar facilities per million vehicle Source: Caltrans District 6 TASAS Table B, July 2008 through June 2011						

At the SR 99 / Shaw Avenue northbound on-ramp, the actual accident rate is below the average accident rate for similar facilities. The one accident with injuries resulted in one person injured. Of the three accidents, one was a rear end collision, one was a broadside collision, and one was a head-on collision. The primary collision factors were speeding (one of three accidents) and failure to yield (one of three accidents).

At the SR 99 / Shaw Avenue southbound off-ramp, the actual accident rate is above the average accident rate for similar facilities. The two accidents with injuries resulted in two persons injured. Three of the six accidents were rear end collisions, while the two of the six were hit object collisions. The remaining one accident was a sideswipe collision. The primary collision factor was speeding (three of six accidents) and secondary collision factor was the influence of alcohol (two of six accidents).

5. ALTERNATIVES

A) Viable Alternatives

Two build alternatives were determined to be viable. As briefly discussed in the introduction, the alternatives have been named the “**Base Alternative**” and the “**Jug-Handle Alternative**”. They are identical in regard to the design of a six lane super arterial connecting Herndon Avenue and Shaw Avenue, an L-9 interchange, and structure over SR 99, but vary with the connection to Golden State Boulevard and the structure over the UPRR right-of-way.

The project development team has evaluated the alternatives for environmental impacts, considered the community input and public comments, and performed a cost analysis for each alternative.

The Jug Handle Alternative has been selected as the preferred alternative for the project. Several factors were taken into consideration during the selection of the preferred alternative including cost, traffic operations, and design.

The estimated cost for the Jug-Handle Alternative is \$115 million, while the estimated cost of the Base Alternative is \$119 million. Therefore, the Jug-Handle Alternative would cost \$4 million (estimated) less than the Base Alternative

At the Veterans Blvd/Golden State Blvd intersection, the Jug-Handle Alternative operates at level of service A during both peak hours; while the Base Alternative operates at level of service C during the AM peak hour (E during the PM peak hour). The right-in/right-out only design of the Jug-Handle Alternative allows the Veterans Blvd/Golden State Blvd intersection to operate better than the dual left-turn lanes of the Base Alternative.

Along Golden State Blvd, the Jug-Handle Alternative allows full access to parcels between SR 99 and Golden State Blvd. For the Base Alternative, northbound traffic would not have access to parcels between SR 99 and Golden State Blvd for roughly 1 mile due to the ramps connecting Golden State Blvd and Veterans Blvd. The Jug-Handle Alternative provides better access to parcels along the corridor than the Base Alternative.

For pedestrians and bicycles, the Jug-Handle Alternative connects Veterans Blvd and Golden State Blvd with conventional pedestrian-friendly crosswalks at a signalized intersection. The Base Alternative’s ramps merge into Golden State Blvd similar to freeway entrance/exit ramps. They are designed for high-speed travel and are not desirable crosswalk locations. The Jug-Handle Alternative provide a safer facility for pedestrians and bicycles.

The following paragraphs describe the common features for both build alternatives.

SR 99/Veterans Boulevard Interchange

The interchange layout is a type L-9 partial cloverleaf interchange with six (6) ramps that connect SR 99 to Veterans Boulevard. The configuration of the L-9 interchange allows for continuous right turn vehicular movements onto SR 99, which minimizes congestion for high traffic volume interchanges. Because left turn movements from Veterans Boulevard to SR 99 are eliminated, the signalized intersections function efficiently with a 2-phase operation.

The freeway ramps are designed using HDM standards including the auxiliary lanes where applicable. Typical lane widths are 12 feet with 8 foot outside and 4 foot inside shoulders.

The structure over SR 99 would be a two (2) span structure with columns located in the median of SR 99. The two spans accommodate for the expansion of SR 99 to the ultimate eight-lane facility and the loop on-ramps. The structure has a total span of 284' with one span at 144' and the other at 140'. It would be a cast-in-place prestressed box girder structure and would provide a minimum vertical clearance of 16'6" as required by Caltrans (HDM Table 309.2A).

Veterans Boulevard

Veterans Boulevard is designed per the City of Fresno typical cross section for a super arterial with the exception of the roadway segment between the Veterans Boulevard/Bryan Avenue/Barstow Avenue and Veterans Boulevard/Riverside Drive/Bullard Avenue intersections. The 6-lane super arterial typical section consists of a 16 foot median, 12 foot number one and two lanes, 13 foot number three lane, and a 7 foot bike lane. Where the roadway profile is rising up to span SR 99 and the UPRR tracks, the roadway median is being reduced to 8 feet to reduce earthwork and structure costs.

Nonstandard Design Features

TABLE 5-1: DESIGN EXCEPTIONS	
Description of Design Exception	Design Criteria Not Met
Advisory HDM 305.1(2) Standard median widths shall meet the minimum design for a multilane conventional highway.	A median width of 8 feet is proposed because the type L-9 interchange does not require a 12' median for left turn pockets and for costs savings reasons. This design exception was approved on April 8, 2011.
Mandatory HDM 1003.1(7) The minimum design speed for bike paths shall be 25 MPH.	The bike path radius is dictated by the radius of the loop on-ramp. The bike path radius proposed would require the design speed to be reduced to 20 MPH. This design exception was approved on April 15, 2011.

Ramp Metering

The proposed on-ramps are designed to accommodate future ramp metering. The project shall include all underground infrastructure, communication facilities, loop detectors, cabinets, and other equipment required for future operations of ramp metering.

CHP Enforcement Areas:

Protected California Highway Patrol (CHP) pull-out areas have been provided in four (4) locations on this project. Two of the pull-out areas are located on the northbound and southbound loop on-ramps. These would be used to enforce the ramp-meter area of the interchange. The other two pull-out areas are located on the northbound and southbound diagonal on-ramps. The primary use of these pull-out areas would be speed enforcement along SR 99 and ramp-meter enforcement on the diagonal onramps.

High Occupancy Vehicle (HOV) (Bus and Carpool) Lanes

The use of High Occupancy Vehicle (HOV) lanes encourages people to carpool, while providing an avenue for bus traffic. High occupancy vehicle lanes are proposed for all ramps. The design of these ramps includes a 12' HOV lane with no buffer between them and their non-HOV counterpart. The ingress to the HOV lanes on the diagonal onramps are traditional, however for the loop on-ramps ingress to the HOV lane would be done via the number three (3) lane on Veterans Boulevard. As vehicles travel on Veterans towards the loop onramps, the vehicles in the number three (3) lane would have the choice either to continue on Veterans Boulevard or make a right turn into the HOV lane. The number four (4) lane would change into the non-HOV lane.

Utility and Other Owner Involvement

Existing utilities, storm drains and sewer systems have been approximately located based on available as-built plans obtained from Caltrans, the City of Fresno, and local utility companies. The following existing underground and overhead utilities have been identified as being within the project limits and are described in the R/W data sheets (Appendix J):

- 230 KV Transmission Tower (PG&E) – There is an existing 230 KV transmission line that runs north/south approximately 1300’ south of the proposed interchange. After crossing SR 99 and the UPRR tracks, the alignment shifts northwest and runs parallel to SR 99. This transmission line is located within a 150’ easement owned by PG&E.

Coordination with PG&E has determined that the Veterans Blvd roadway east of the UPRR tracks would be in violation with the vertical clearance requirements of General Order 95. The transmission line where crossing Veterans Blvd would need to be raised approximately 15’-20’ to meet clearance requirements. Alternatives being evaluated by PG&E to eliminate the conflict include raising a nearby tower and the constructing of a new tower. Transmission tower work would need to be performed during the winter and would require Independent System Operator (ISO) approval. It is not anticipated the alignment of the transmission line would move more than 25 feet from the current alignment.

- Petroleum (Kinder Morgan) – Kinder Morgan owns and operates a 12-inch high pressure refined petroleum products pipeline within the UPRR right of way. The gas line runs adjacent to the UPRR tracks on the west side approximately 5 feet deep.

The Fresno Metropolitan Flood Control District Stormdrain Master Plan proposes to construct a 42” pipe perpendicular across the UPRR R/W to convey water from the east side of the tracks to the west side. If the 42” master plan pipe is constructed with this project, it is anticipated that a portion of this Kinder Morgan line would need to be lowered to provide room for the gravity line.

- Fiber Optic (Qwest) – Qwest has an existing underground fiber optic line within the UPRR R/W running parallel to the western R/W line. Constructing the storm drain improvements discussed under Petroleum may cause a conflict requiring relocation. Often times utility company do not allow new splices in their fiber optic line because splices decrease their data transfer rates. As a result, the fiber optic line may need to be replaced from existing splice points that could be thousands of feet away.
- Fiber Optic (Sprint) - Sprint has an existing underground fiber optic line within an easement that overlaps the City and UPRR R/W on the west side of the tracks. Constructing the storm drain improvements discussed under Petroleum may cause a conflict requiring relocation. Often times utility company do not allow new splices in their fiber optic line because splices decrease their data transfer rates. As a result, the fiber optic line may need to be replaced from existing splice points that could be thousands of feet away.

- Fiber Optic (Level 3 Communications) – Level 3 Communications has a buried fiber optic line within the 150' easement owned by PG&E adjacent to the 230 KV transmission lines. The construction of Veterans Boulevard would add embankment over the buried line. Storm drain improvements, including master plan pipes or the construction of a temporary basin, on the north side of Veterans Boulevard could cause a conflict with the fiber line requiring a relocation.
- Fiber Optic (AT&T) – AT&T has an existing fiber optic line on the east shoulder of Golden State Blvd within City R/W. This fiber optic line is in direct conflict with proposed bridge bents and abutments and would need to be relocated.
- Underground Cable (AT&T) – AT&T has an existing communication line on the east shoulder of Golden State Blvd within City R/W. This fiber optic line is in direct conflict with proposed bridge bents and abutments and would need to be relocated.
- Water Wells (Domestic) –The Phase I Environmental Site Assessment identified several active domestic wells, inactive wells, and covered or capped wells located within the project limits. All active and inactive wells would need to be abandoned during construction.
- Irrigation Canal (Fresno Irrigation District) – The Fresno Irrigation District operates several irrigation canals throughout the Fresno area including the Herndon Canal. The Herndon Canal crosses the proposed Veterans Boulevard alignment approximately 1900 feet south of the existing Veterans Boulevard/Bryan Avenue/Barstow Avenue intersection.

At the proposed crossing, a single span bridge or a concrete box culvert would need to be constructed. The profile of Veterans Boulevard would need to be designed to ensure peak irrigation flows can be accommodated. The construction work would need to be performed during the winter months when the irrigation district is not providing irrigation water to the farmers.

- Sanitary Sewer (City of Fresno) – The City of Fresno recently completed several projects that installed master plan sewer facilities under the proposed Veterans Boulevard alignment within City owned easements. The improvements run from the Herndon Avenue/Polk Avenue Intersection southwest across the UPRR track, Golden State Blvd, SR 99, to Bullard Avenue.
- Overhead Communication Lines (UPRR) – UPRR has an overhead communication line that runs adjacent to the railroad tracks on the east side. The proposed grade separation over the UPRR tracks would place a bridge bent in close proximity to the communication lines. Several poles may need to be relocated to maintain the minimum clearances.

- Gas Lines (PG&E) - PG&E has a 4" gas line on the north side of Shaw Avenue within in existing 10' easement. The 10' easement falls within ultimate Shaw Avenue roadway and within the proposed intersection. The easement and gas line may need to be relocated to the north with this project.
- Overhead Electrical Lines (PG&E) – PG&E has overhead electrical lines in conflict with the proposed improvements in several places.

There are existing overhead electrical lines running east/west on the north side of Shaw Avenue. Constructing the new Veterans Boulevard/Shaw Avenue intersection would impact several poles. These poles are located in the same 10' easement that the 4" gas line is in.

The Veterans Boulevard Project will also install city master plan utilities within the project limits including an Intelligent Transportation System (ITS), water lines, and recycled water lines.

Highway Planting

Highway planting shall be done in accordance with the Project Development Procedures Manual (PDPM) chapter 29, section 2. This manual states that all planting shall be done such that the corridor theme of the state facility is maintained. Proposed with this project, the planting shall include the areas in the center medians, the interchange ramps, and the UPRR overcrossing. This planting would double as an erosion control measure.

The recommendation from the Visual Impact Assessment published by LSA in May 2010, chapter 6.4 states, "To enhance the visual quality for the project in accordance with the evaluation it is recommended that selective rights-of-way be landscaped with groundcover and shrubs and/or trees. The focus for landscaping enhancements would occur at the new interchange/ramps and UPRR overcrossings."

Erosion Control

All graded areas would be provided with erosion control measures in accordance with the State's Standard Specifications and Caltrans statewide National Pollution Discharge Elimination System (NPDES) permit.

Railroad Involvement

Mainline SR 99 runs parallel to the Union Pacific Railroad (UPRR) tracks. The railroad company maintains a 150' right-of-way along the east side of SR 99. Both alternatives being considered proposed a grade separation over the UPRR tracks. The structure would provide a minimum of 23'4" above the existing railroad tracks and a main span long enough to accommodate two future tracks with an access road, which satisfies the requirement set in the BNSF Railway – Union Pacific Railroad Guidelines for Railroad

Grade Separation Projects. A Construction and Maintenance Agreement (C&M Agreement) would be required for construction of the overhead structure.

Non-motorized and Pedestrian Features, etc.

The corridor along Veterans Boulevard also contains a 12' wide Class 1 trail. This trail was designed to increase pedestrian and bicycle safety throughout the corridor. The 12' wide trail runs from Herndon Avenue to Shaw Avenue on the north side of Veterans Boulevard. In order to increase pedestrian and bike safety at the southbound loop on-ramp (which has the heaviest ramp traffic volume), the trail alignment loops and ramps down with the southbound loop on-ramp. It proceeds to travel under the southbound loop on-ramp and diagonal off-ramp and connects to an existing section of the Class 1 trail approximately 550' west of the proposed undercrossing. The minimum vertical clearance for this trail under the southbound off-ramps is 10'.

1. Jug-Handle Alternative

The Jug-Handle alternative was developed in the PA-ED phase and was not included in the Project Study Report and generally: constructs a type L-9 interchange connecting Veterans Boulevard to Route 99, a Veterans Boulevard overcrossing over Golden State Boulevard (with connecting "Hook Ramps") and over the UPRR tracks, and extends from Shaw Avenue to Herndon Avenue. Veterans Boulevard would accommodate future planned road way connections and the realignment of a portion of Herndon Avenue to connect with Veterans Boulevard.

Proposed Engineering Features

The Jug-Handle alternative connects to Veterans Boulevard via "jug handle" shaped ramps to Golden State Boulevard. This alternative re-aligns Golden State Boulevard to the west and provides a structure over Golden State Boulevard for the Veterans Boulevard traffic. The structure over the proposed Golden State alignment is a two (2) span structure with span widths of 75'-9" and 77'-9" along the Veterans Boulevard alignment. This structure has a total span of 153'-6" and provides a minimum vertical clearance of 16'-1" over the roadway section, which exceeds the required 15'-0" per HDM Table 309.2A. It is a cast-in-place, post-tensioned concrete box girder with an overall section width of 136'-10".

Two at-grade intersections were added at the locations where the jug handle ramps connect with Golden State Boulevard. From there, the "J1" ramp (approximately 925 feet in length) located to the south of Veterans Boulevard, and the "J2" ramp (approximately 1115 feet in length) located to the north of Veterans Boulevard, ramp up to connect to the proposed Veterans Boulevard. Both the "J1" and "J2" ramps are two way, two lane ramps that provide right-in/right-out movements to/from Veterans Boulevard and provide fully signalized intersections at the connections to Golden State Boulevard. The notable difference between the "J1" and "J2" ramps is that the "J2" ramp

has a standard 10' sidewalk section whereas the "J1" ramp does not provide pedestrian access.

The structure over the Union Pacific Railroad (UPRR) would be a three (3) span structure with a total span of 305'. From east to west, the span lengths are 95', 150', and 105' respectively. The columns are located just outside the UPRR operational right-of-way. This structure also has a vertical clearance of 23'4" over the existing railroad tracks, which meets the requirements set forth in Table 309.5A of the HDM.

Cost Estimate

The roadway, structure, right of way, and utility costs for the Jug Handle Alternative are summarized in Table 5-4 below.

TABLE 5-2: JUG HANDLE ALTERNATIVE PRELIMINARY COST ESTIMATE SUMMARY	
	PA-ED Cost Estimates
	Jug-Handle
Roadway	\$46,120,000
Structure	\$19,650,000
R/W & Utilities	\$23,850,000
Total	\$89,620,000

The roadway, structure, right of way, and utility costs for the Veterans Boulevard Extension are summarized in Table 5-5 below.

TABLE 5-3: VETERANS EXTENSION PRELIMINARY COST ESTIMATE SUMMARY	
	PA-ED Cost Estimates
	Extension
Roadway	\$21,310,000
Structure	0
R/W & Utilities	\$4,409,000
Total	\$25,719,000

The full preliminary cost estimate for each alternative can be found in Appendix H of this report.

Right of Way Data

Right of way cost estimates are reported on the right-of-way data sheet in Appendix J. These costs include utility relocation, however at the PA-ED level, the full extents of utility relocation cannot be fully established. Table 5-7 below summarizes the right of

way data for the jug-handle alternative (including the extension from Shaw Avenue to Herndon Avenue).

TABLE 5-4: RIGHT OF WAY SUMMARY – JUG-HANDLE ALTERNATIVE		
Description	Area (ac)	No. of parcels
Partial R/W Acquisition	76.76	45
Full Parcel Acquisition	13.93	5
Railroad Easement	0.53	1
Slope and Trail Easements	4.55	28
Utility Easement	0.74	6

2. Base Alternative

The Base Alternative was presented in the project study report and generally includes: construction of a type L-9 interchange connecting Veterans Boulevard to Route 99, a Veterans Boulevard overcrossing over Golden State Boulevard (with left turn connections to and from Golden State Boulevard) and over the UPRR tracks, and extends from Shaw Avenue to Herndon Avenue. Veterans Boulevard would accommodate future planned road way connections and the realignment of a portion of Herndon Avenue to connect with Veterans Boulevard.

Proposed Engineering Features

Golden State Boulevard's northbound and southbound lanes connect to Veterans Boulevard via single lane ramps that diverge from the median of Golden State Boulevard to an at-grade intersection with Veterans Boulevard. Likewise, the connections from Veterans Boulevard to Golden State Boulevard contain single lane ramps that converge to the median of Golden State Boulevard.

The structure over SR 99 would be a two (2) span structure with columns located in the median of SR 99. The two spans accommodate for the expansion of SR 99 to the ultimate eight-lane facility and the loop on-ramps. The structure has a total span of 284' with one span at 144' and the other at 140'.

With the construction of the northbound and southbound ramps from Golden State Boulevard to Veterans Boulevard, the base alternative requires two (2) separate structures. Both structures have a cross-sectional width of approximately 142'10" and are cast-in-place post-tensioned concrete box girders. The first is a single span structure that covers a total of 245' and travels along Veterans Boulevard over the UPRR right of way and the proposed northbound Golden State Boulevard lanes. This structure has a vertical clearance of 23'4" over the existing railroad tracks, which meets the requirements set forth in Table 309.5A of the HDM. The second structure spans a total of 105' and travels along Veterans Boulevard over the southbound Golden State

Boulevard lanes. This structure has a vertical clearance of 16'-1", which exceeds the requirements set forth in Table 309.5A of the HDM.

Cost Estimate

The roadway, structure, right of way, and utility costs for the Base Alternative are summarized in Table 5-2 below.

TABLE 5-5: BASE ALTERNATIVE PRELIMINARY COST ESTIMATE SUMMARY	
	PA-ED Cost Estimates
	Base
Roadway	\$49,510,000
Structure	\$22,280,000
R/W & Utilities	\$21,230,000
Total	\$93,020,000

The roadway, structure, right of way, and utility costs for the Veterans Boulevard Extension are summarized in Table 5-3 below.

TABLE 5-6: VETERANS EXTENSION PRELIMINARY COST ESTIMATE SUMMARY	
	PA-ED Cost Estimates
	Extension
Roadway	\$21,310,000
Structure	0
R/W & Utilities	\$4,409,000
Total	\$25,719,000

The full preliminary cost estimate for each alternative can be found in Appendix H of this report.

Right of Way Data

Right of way cost estimates are reported on the right-of-way data sheet in Appendix J. These costs include utility relocation, however at the PA-ED level, the full extents of utility relocation cannot be fully established. Table 5-4 below summarizes the right of way data for the base alternative (including the extension from Shaw Avenue to Herndon Avenue).

TABLE 5-7: RIGHT OF WAY SUMMARY – BASE ALTERNATIVE		
Description	Area (ac)	No. of parcels
Partial R/W Acquisition	64.91	45
Full Parcel Acquisition	15.81	5
Railroad Easement	0.53	1
Slope and Trail Easements	4.28	28
Utility Easement	0.74	6

The reasons why the Base Alternative was not selected include project cost, traffic operations, and pedestrian/bicycle access. The project cost for the Base Alternative is approximately \$4 million more than the Jug Handle Alternative. The Veterans Blvd/Golden State intersection operates at a LOS of E in 2035 as a result of the close spacing to the Veterans Blvd/SR 99 NB ramp intersection. Additionally, the proposed Golden State Blvd geometrics create challenges for pedestrian and bicycles trying to gain access to Veterans Blvd.

No changes were made to either alternative as a result of comments received from the public.

B) No Build Alternative

The No Build Alternative would not construct a new interchange on State Route 99. Vehicles would continue to utilize the existing interchanges at Herndon Avenue and Shaw Avenue.

It is anticipated that the existing Shaw Avenue interchange would operate at unacceptable levels of service by 2015, according to City of Fresno's and Caltrans' LOS standards, during the peak hours under No Project conditions. Although the construction of the Veterans Boulevard Interchange Project does not increase the LOS at the existing Shaw Avenue intersections with the SR 99 ramps, there would be a decrease in the delay times by 15%-92%.

The Herndon Avenue intersections with the SR 99 ramps would operate at LOS F by 2035 under the No Build condition. With the Veterans Boulevard Project, the ramp intersections operate at LOS B-E in the AM and operate at level of service F in the PM.

The No Build alternative would result in excessive delays and poor traffic operations for SR 99. The No Build alternative would not accommodate the anticipated circulation needs of planned developments in the project area, which would result in poor circulation. Additionally, the No Build alternative is not consistent with local, regional and system planning.

C) Rejected Alternatives

Alternative 2

Alternative 2 was included in the PSR and maintains the same interchange configuration as the base alternative but would provide a new connector road from Golden State Boulevard north of Veterans Boulevard, to Veterans Boulevard east on Golden State Boulevard and the Union Pacific Railroad tracks. This alternative would require bringing the connector road under the railroad, lowering Golden State Boulevard to match grade with the connector road, construction of a new structure to bring the railroad over the connector road (underpass), construction of a temporary mainline railroad track for use during construction of the new railroad underpass structure, retaining walls in various locations, and would require a permanent storm water pumping station for Golden State Boulevard and the connector road.

Operational Concerns

Alternative 2 is no longer being considered because of the close spacing between the Veterans Boulevard/Bullard Avenue and Veterans Boulevard/Golden State Boulevard Connector intersections. Although operations analysis indicates that these intersections would operate at LOS E, the close spacing of these intersections would cause a reduced quality of operations on Veterans Boulevard, there is a concern with the on-going maintenance cost of the railroad structure and the pump station and reduced access for future business along the depressed portion of Golden State Boulevard.

Alternative 3

Alternative 3 was included in the PSR and maintains the same interchange configuration as the Base Alternative but would provide a new connector road from Golden State Boulevard north of Veterans Boulevard to Bullard Avenue north of Veterans Boulevard east of Golden State Boulevard and the Union Pacific Railroad tracks. This alternative would require bringing the connector road under the railroad, lowering Golden State Boulevard to match grade with the connector road, construction of a new structure to bring the railroad over the connector road (underpass), construction of a temporary mainline railroad track for use during construction of the new railroad underpass structure, retaining walls in various locations, and a permanent storm water pumping station for Golden State Boulevard and the connector road.

Operational Concerns

Alternative 3 is no longer being considered because of the closely spaced intersections with Veterans Boulevard/Bullard Avenue and the connection road. The queuing for the intersections would spill-back into the adjacent intersections creating an unacceptable LOS F (2035). In addition to poor traffic operations, Alternative 3 has similar issues as Alternative 2 which includes: on-going maintenance cost of the railroad structure and the pump station and reduced access for future business along the depressed portion of Golden State Boulevard.

6. CONSIDERATIONS REQUIRING DISCUSSION

A) Hazardous Waste

The Phase I Environmental Site Assessment was performed for the purpose of identifying recognized environmental conditions at the site and a Phase II Preliminary Site Investigation was performed on critical properties that planned for acquisition. The investigations were performed in accordance with the scope and limitations of the Caltrans Initial Site Assessment guidelines, from Chapter 5 “Hazardous Waste Site Investigations” of the Caltrans Project Development Procedures Manual. The investigations included a review of aerial photographs and topographic maps for historical uses of the property, and a review of database listings for records of known storage tank sites and known sites of hazardous materials generation, storage or contamination. The Phase I Environmental Site Assessment also included a visual observation of the project site to evaluate the potential for existing sources of contamination on or near the subject site.

Based upon the information obtained as part of the Phase I Environmental Assessment, a Phase II investigation was performed with the following results:

Dakovich and Sons’ Property

Septic systems at George Dakovich and Son and Cal Valley General Engineering (formerly Curry Diesel Repair and Singh Trucking) potentially received wash water from equipment and parts cleaning operations and may have impacted soil beneath the septic systems.

Two borings were performed; one located at the washrack/sump and one at the septic tank location. The samples taken at the washrack/sump and septic tank reported CAM-17 metal concentrations that were generally low and were below the California Human Health Screening Levels (CHHSL) for commercial/industrial land use. Additionally, the sample taken at the septic tank had TPH-s and VOCs concentrations there were not reported at or above the practical quantitation limit (PQL).

Two soil borings were also performed in the stormwater retention basin located on the Dakovich property. Diesel range hydrocarbons (TPH-d), and motor oil range hydrocarbons (TPH-o) were detected. Based on data and observations made by Kleinfelder during the PSI, visually estimated volume of impacted soil is 5 cubic yards.

Seal-Rite Paving

Soil at the Seal-Rite Paving Company may have been impacted by repair and maintenance of vehicles near the center of the site.

Eighteen (18) soil samples were collected from five (5) locations and analyzed for TPH-s, VOCs, SVOCs, and metals. Analysis of samples reported detectable concentrations of CAM-17 metals. However, metals concentrations were generally low and were below the CHHSL for commercial/industrial land use. Several samples contained elevated concentrations of TPH-d and -o. Based on data and observations made by Kleinfelder during the PSI, visually estimated volume of impacted soil is 30 cubic yards.

Agricultural Burn Area

An agricultural burn area was noted at the southwest corner of the fig orchard on Bryan Avenue north of the intersection of Bryan Avenue and Veterans Boulevard, and may have resulted in accumulation of residual concentrations of metals, agricultural chemicals and related chemicals.

Three surface samples were collected from the burn area and analyzed for CAM-17 metals, and SVOCs. Sample analysis reported various detectable metal concentrations above the PQL. However CAM-17 metal concentrations were reported below the CHHSL for commercial/industrial land use.

Union Pacific Railroad

The UPRR crosses the site from southeast to northwest, northeast and parallel to Golden State Boulevard. Railroads have historically used organic and inorganic chemicals to control pests and weeds, which may have impacted soil on and adjacent to the railroad property.

Eleven (11) soil samples were collected and analyzed for total arsenic. One soil sample contained a concentration of arsenic at 0.194 mg/kg and was qualified as an estimated value by the analytical laboratory. This concentration is below the CHHSL, and within the range of background concentrations reported in California background metal studies.

Golden State Boulevard Lead Analysis (ADL)

Roadways at the site including Golden State Boulevard and SR 99 have existed since at least the 1950s. Aerially deposited lead, generated from the emissions of vehicles fueled by leaded gasoline, may be present in soils adjacent existing site roadways.

Sixty-nine (69) soil samples were collected at eighteen (18) locations along the shoulder of Golden State Boulevard and analyzed for total lead and arsenic. Total lead was detected in 53 of the soil samples and the concentrations fell below the criteria for hazardous waste.

Cal Valley/In-N-Out Sand Blasting Property

Abrasive blasting historically occurred at In-N-Out Sandblasting. Abrasive blasting activities may result in elevated metal concentrations in the soil. Evaluation of metal concentrations in the soil in the areas the abrasive blasting occurred was conducted.

Soil analysis was performed near the maintenance building, office building, area between the office and garage facilities, and the septic system. Several samples analyzed reported detectable concentrations of CAM-17 metals. However, metals concentrations were generally low and were reported below the CHHSL for commercial/industrial land use. Concentrations of arsenic were reported in several samples above the CHHSL for commercial/industrial land use, but were within the range of background concentrations reported in California background studies.

B) Value Analysis

The Project Development Team (PDT) agreed to perform the Value Analysis study during the PS&E phase.

C) Resource Conservation

Energy – Implementation of the “Energy Decision Tree” (Caltrans Environmental Handbook Volume 1, Chapter 13) determined that this project is not a “major project” requiring further energy analysis. When balancing energy used during construction and operation against energy saved by relieving congestion and other transportation efficiencies, the project would not have substantial energy impacts.

D) Right of Way Issues

Right of way acquisition would be required for construction of this project. A field survey, and review of relevant documentation (e.g. APN maps), of the proposed Veterans Boulevard project was conducted to determine the potential impact on residential and non-residential units. Preliminary engineering suggests that there would be right-of-way acquisitions of fifty-one parcels, of which two contain businesses that would require relocation assistance. No residential displacements were observed. These parcels contain non-residential light industrial improvements (a machinery service & repair facility and a construction management, storage and maintenance facility). It is believed that one parcel is owner occupied and the other is tenant occupied.

Final right of way certification would be required prior to advertisement of the project. A detailed summary of right of way impacts is included as Appendix J of this report.

E) Environmental Issues

The California Environmental Quality Act (CEQA) concluded the following impacts on the environment:

- The proposed project would have less than significant effects on the following: aesthetics, agriculture and forest resources, air quality, cultural resources, geology and soil, land use and planning, mineral resources, population and housing, public service, recreation, transportation, and utility and service system.
- The proposed project would have a significant effect on the environment without mitigations on the following: biological resources, hazard and hazardous materials, and hydrology and water quality.
- The proposed project would have unavoidable significant environmental effects on noise.
- The proposed project would have no significant irreversible environmental changes.

The accompanying Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact has been prepared in accordance with Caltrans' environmental procedures, as well as State and Federal environmental regulation and is the appropriate document for the proposal. See appendix C.

F) Air Quality Conformity

The project alternatives are fully compatible with the design concept and scope described in the Council of Fresno County Governments 2011 Regional Transportation Plan and the 2011 Federal Transportation Improvement Plans (Project ID: FRE111328; Description: Veterans Blvd Barstow to Bullard-Bryan-New 6 LN Super Arterial, Freeway Interchange & Grade Separation @ SR99 and Project ID: FRE111329; Description: New 4 LD Super arterial from Shaw to Barstow & from Bullard-Bryan to Herndon and Connect Interchange to Shaw & Herndon).

The Interagency Consultation Partners have concurred that the project is not a "Project of Air Quality Concern," (POAQC) and would not result in new violations of Federal PM2.5 or PM10 air quality standards (concurrence by; FHWA 3/3/2011 and EPA 3/1/2011).

G) Title VI Considerations

Throughout the corridor, provisions have been made to incorporate low mobility and minority groups. A class I bike/pedestrian path is proposed along the corridor, connecting Herndon Avenue to Shaw Avenue along Veterans Boulevard. All sidewalks within this project are compliant with the most recent Americans with Disabilities Act (ADA) standards and provide truncated domes for individuals with visual handicaps.

Fresno Area Express (FAX) bus routes have been accommodated for at some intersections; however these bus turnouts would be constructed with developer driven projects in the future.

7. OTHER CONSIDERATIONS AS APPROPRIATE

A) Public Hearing Process

The environmental document was made publicly available on August 8, 2012 for a public comment period that extended to September 22, 2012. The DEIR/EA was posted to the Caltrans website, and hard copies were made available to the Fresno Public Library, and mailed to people, agencies, and groups requesting copies.

A public hearing was held from 6:00pm to 8:30pm on August 29th, 2012 at River Bluff Elementary School. Approximately 53 members of the public attended. There were various stations relating to both process and technical issues, with corresponding displays and project specialists available to answer questions. Copies of the DEIR/EA and supporting documentation were available for review, and a court reporter was in attendance to record any comments. In general, the concerns expressed at the hearing related to rerouting traffic at Herndon Avenue to accommodate staging and pedestrian safety.

B) Route Matters

A superseding freeway agreement would be required between Caltrans and the City of Fresno, and Caltrans and the County of Fresno to address the new connection to State Route 99. The new connection must also be approved by the California Transportation Commission (CTC) before the superseding freeway agreement can be fully executed by the State. The CTC approval will set terms and conditions for granting the new connection which may include right of way, construction cost, and completion time frame for construction of the new connection. Fresno Council of Government (COG) currently has the right-of-way acquisition funding available in 2013/2014 and construction funding available in 2019/2020. If the terms and conditions are not met, a supplemental project report may need to be prepared.

C) Permits

The following permits are anticipated to be required prior to construction of the propose improvement Project:

TABLE 7-1: PERMITS		
Agency	Permit/Approval	Status
U.S. Fish and Wildlife Services	Section 7 consultation for threatened and endangered species.	Formal Section 7 Consultation for potential impacts to vernal pool fairy shrimp (VPFS) with mitigation on inferred presence, and potential impacts to the Valley Elderberry Longhorn Beetle (VELB) with avoidance measures would need to be initiated prior to the plans, specifications and estimates phase of the project.
U.S. Army Corps of Engineers	Section 404 Individual Permit for filling or dredging waters of the United States.	Pending completion of the Project Specifications and Estimates phase of the process.
Central Valley Regional Water Quality Control Board	Section 401 Water Quality Certification. Waste Discharge Permit Review and approval of stormwater discharge treatments.	Pending completion in the Project Specifications and Estimates phase of the process.
City of Fresno Encroachment Permit	For construction of improvements on local roadways within the City of Fresno.	Pending completion of the Project Specifications and Estimates phase of the process.
Fresno County Flood Control Agency	Confirmation that the project meets 200-year flood control as required by Federal Emergency Management Agency.	Pending completion of the Project Specifications and Estimates phase of the process.
Caltrans Encroachment Permit	For construction of improvements within State right-of-way	Pending completion of the Project Specifications and Estimates phase of the process.

D) Cooperative Agreements

The City of Fresno and the State of California have the following cooperative agreements in place for the project: Agreement Number 06-1415 which was executed on February 1, 2010 and covers all work associated with Project Approval and Environmental Document (PA&ED) and Agreement Number 06-1502 which was executed on July 24, 2012 and covers all work associated with the Plans, Specifications, and Estimate (PS&E) and Right of Way (ROW).

A cooperative agreement would be needed for future construction of the project.

E) Freeway Agreement and California Transportation Commission (CTC) Approval

Freeway Agreement

The existing freeway agreement within the project limits is between Caltrans and the County of Fresno and spans from the Clinton Avenue off-ramp (PM 24.79) to the San Joaquin River (PM 31.67). This agreement will need to be revised to include the new freeway connection between Veterans Boulevard and State Route 99.

The City of Fresno's sphere of influence has expanded. The current boundary line between the City of Fresno and County of Fresno lies within the project limits and crosses State Route 99 just north of the proposed overcrossing at PM 29.58. As a result, separate agreements will need to be prepared for the City and County. The agreements are being prepared by Caltrans and the City has already prepared the exhibits.

CTC Approval

CTC approval will be required as the proposed project includes new connection to State Route 99. To support obtaining approval for these new connections, City and Caltrans staffs have had preliminary discussions regarding the potential to close the existing Princeton Avenue ramps with southbound State Route 99. Alternative access with State Route 99 to areas that would be affected by closure of these ramps is available via the Clinton Avenue interchange to the south and the Ashlan Avenue interchange to the north. City and Caltrans staffs have also had preliminary discussions regarding the potential to close the State Route 99 southbound off-ramp to Herndon Avenue. Alternative access from Southbound State Route 99 is available just to the north via the direction off-ramp to Golden State Boulevard. Closure of the southbound off-ramp to Herndon Avenue is proposed as part of the Herndon Avenue/SR 99 Interchange Improvements Project. The project is currently in the PS&E phase.

F) Other Agreements

Other agreements that would be required include the following:

- A Construction and Maintenance Agreement (C&M Agreement) would be required for construction of the overhead structure at the Union Pacific Railroad.
- An agreement between the City and Fresno Metropolitan Flood Control District (FMFCD) would be required.
- An agreement between the City and Fresno Irrigation District (FID) would be required.
- A design and construction agreement would be required for the modifications needed to the PG&E 230 KV transmission line.

G) Transportation Management Plan for Use during Construction

The Transportation Management Plan (TMP) is included as Appendix M. Consistent with district policy and procedures, it is expected that design of the project, especially staging and traffic control systems, would be coordinated closely with the district TMP coordinator. These traffic control systems would include appropriate work zone measures, including Extinguishable Message Signs (EMS) and/or Changeable Message Signs (CMS). It is also anticipated that there would be a Construction Zone Enhanced Enforcement Program (COZEEP) in place as part of traffic management during construction, including setting and removal of K-rails. It is expected that no work would be allowed on holiday weekends nor the preceding Friday.

The alternatives considered in this report cannot be constructed without some impact to traffic, primarily due to driver curiosity, construction area signs and controls, and can be reduced with a well-planned stage construction/traffic handling plan and aggressive public awareness during construction. It is anticipated on a project this large that the following traffic control items would be required:

- Temporary striping would be required to shift traffic away from construction zones;
- Temporary railing (Type K) to separate construction zones from traffic;
- Work-period lane closures would be required (i.e. for removing pavement delineation, setting K-rail, pavement conforms, falsework erection and removal, ect.)

H) Staged Construction

Because the project is to construct a new roadway with new connections, the project staging is relatively simple. There would be several nighttime traffic detours for erecting falsework, etc. However, Golden State Boulevard runs parallel to Route 99 and would be used for detours.

Temporary striping would be required to shift traffic away from construction zones, with continuous temporary railing (Type K) to separate construction zones from traffic. Some work-period lane closures would be required (i.e. for removing delineation, setting K-rail, pavement conforms, etc.) and would be performed during non-peak traffic hours. Partial freeway closures would be required for erection and removal of falsework required for the construction of the new overcrossing. Additionally, seasonal limitations would be implemented for construction of a box culvert crossing the Fresno Irrigation District (FID) canal, which would need to be completed during winter.

I) Accommodation of Oversize Loads

This project does not place any height limitations on loads moving in or out of the area. A minimum vertical clearance of 15.0' shall be used during construction. Post-

construction, the falsework would be removed leaving the vertical clearance at approximately 18', which satisfies HDM index 309.2(1)(a).

A minimum horizontal clearance of 49.0' (3 Lanes + 8' & 5' Shoulders) shall be used during construction, which satisfies HDM Table 204.8. Post-construction, the falsework shall be removed leaving horizontal clearance consistent with HDM index 309.1.

J) Graffiti Control

This project is within the urban area of Fresno County and, as such, is determined to be in a graffiti-prone area. Implementation of graffiti control measures would be incorporated into the design at the PS&E level.

K) High Speed Rail

The California High Speed Rail (HSR) Project proposes to construct 800 miles of track connecting southern California, the Central Valley, and the Bay Area. The project is in the planning phase analyzing alternatives and the environmental document is being prepared. California's HSR Project is broken up into 10 sections with the Veterans Blvd Interchange Project falling within the Fresno– Bakersfield section.

Within the limits of the Veterans Boulevard Project, the HSR alignment is planned along the west side of the existing UPRR right of way. As the HSR alignment approaches the future Veterans Boulevard crossing, the HSR alignment diverges to the west to generate room for the alignment to rise up and cross over Golden State Boulevard near Herndon Avenue. Within the limits of the Veterans Boulevard Project, the HSR right of way width is 100' wide and is offset to the west approximately 50' from the existing UPRR tracks. As a result, the connection between Veterans Boulevard and Golden State Boulevard would need to shift approximately 150' westerly. Golden State Boulevard will also need to be realigned to the west to accommodate the HSR.

The planned HSR profile being studied with the HSR environmental document is at-grade and will be slightly lower than the existing UPRR tracks at the Veterans Boulevard crossing. To meet the required 27' of vertical clearance at the crossing with Veterans Boulevard, the Veterans Boulevard profile will need to rise up approximately two feet.

The HSR environmental document proposes to construct portions of the Veterans Boulevard Project that includes the grade separation over the UPRR and HSR tracks, re-aligning Golden State Boulevard, and a connection between Veterans Boulevard and Golden State Boulevard. Additional project impacts and costs resulting from the HSR are captured by the HSR project. These improvements would be the existing condition when the Veterans Boulevard Project is constructed; since the HSR is scheduled to be constructed ahead of the Veterans Boulevard Project.

L) Phased Construction

Recommended Project Phasing:

Because of limited available funding, phased implementation of the preferred alternative is proposed. Phased improvements would be constructed consistent with the description of programmed projects in the Federal Transportation Improvement Program (FTIP).

There are two projects programmed in the FTIP. FR111328 – A six-lane Veterans Blvd from Barstow Avenue to Bryan Avenue (Riverside Drive)/Bullard Avenue with an interchange on SR 99 and a grade separated crossing of the UPRR tracks. FR111329 – A four-lane Veterans Blvd from Shaw Avenue to Barstow Avenue, and from Bryan Avenue (Riverside Drive)/Bullard Avenue to Herndon Avenue. Both projects would be able to accommodate traffic forecasted from 2025.

8. PROGRAMMING

A) Funding

The City of Fresno is funding the various elements of the project through local funding (including Fresno County Measure “C” sales tax funding, State Transportation Improvement Program, Regional Transportation Mitigation Fee, City of Fresno Major Street funding, and developer fees), plus Federal RSTP funds and RIP funds.

The current estimated cost for the Base Alternative is \$93,020,000 and the Jug-Handle Alternative is \$89,620,000. The estimate for the Extension segments of the project is \$25,719,000. These costs include non-escalated construction, right-of-way, and utility relocation costs.

According to the 2013 FTIP, \$12.1 million has been made available for environmental and design in 2010/11. For right of way acquisition, \$19.0 million is available in 2012/2013 and \$13.3 million in 2013/2014. Construction funding is projected to be available in 2019/2020, however, the funding sources incorporated in projecting these scheduled dates are dynamic and subject to change along with the general assumptions regarding each funding source and overall cost estimates of the project.

The California High Speed Rail (CAHSR) will fund and construct the Veterans Boulevard crossing over the CAHSR and UPRR tracks in 2014/2015. In addition, the 2014 STIP will be updated in August 2013. Because of these funding changes, the right of way acquisition and the lead time requirements shown on the right of way data sheets are expected to be accelerated. The milestone schedule shown in Section B reflects the accelerated schedule.

Right of way acquisition, final design, and construction is anticipated to be procured by the City. Caltrans capital outlay support for design and right of way would be oversight only per the existing approved cooperative agreements.

B) Project Schedule

The project milestone schedule is shown in Table 8-1 below.

TABLE 8-1: PROJECT MILESTONE SCHEDULE	
Project Milestone	Date
Complete PA & ED	July 2013
Complete PS&E	October 2014
Right of Way Certification	November 2014
Ready to List	November 2014
Approve Contract	December 2014
Construction Contract Complete	December 2016
Note: Funding sources are dynamic and are subject to change in future updates to the Measure "C" Extension 2010 Short Term Regional Transportation Program.	

9. REVIEW

This project does not require Federal Highway Administration (FHWA) review or approval in accordance with current FHWA/Caltrans Stewardship Agreement.

- City of Fresno
David Cisneros, City Project Manager would review this report and all of his comments would be addressed or incorporated.
- Caltrans Headquarters Design
Michael Janzen, Interim Design Coordinator for Chief, Headquarter Division of Design, has reviewed the project and all of his comments have been addressed.

10. PROJECT PERSONNEL

The following individuals may be contacted for information pertaining to this Final Project Report.

City of Fresno

- Scott Mozier – (559) 621-8811
City Engineer
- David Cisneros - (559) 621-8804
Project Manager

County of Fresno

- John Robertson – (559) 600-4527
Project Manager

Fresno Council of Governments (COG)

- Les Beshears – (559) 233-4148 ext. 209
- Melissa Garza – (559) 233-4148 ext. 210
- Peggy Arnest – (559) 233-4148

Caltrans – District 6

- Jim Bane
Project Manager – Project Management
- Randy Bonds
Environmental Coordinator
- Trais Norris/Kelly Hobbs
Environmental Manager

Mark Thomas & Company, Inc. (MTCO)

- Rob Himes – (916) 381-9100
Principal in Charge
- Ed Noriega – (559) 447-1938
Project Manager
- Greg Gross – (559) 447-1938
Project Engineer

LSA & Associates

- Edward Heming – (916) 630-4600
Environmental Manager

Fehr & Peers

- Fred Choa – (916) 773-1900
Traffic Manager

11. LIST OF ATTACHMENTS

The following attachments are included with this project report for the considered alternatives:

Appendix A – Location Map

Appendix B – Circulation Map (2025 Fresno General Plan)

Appendix C – Final Environmental Document (Cover Page)

Appendix D – Jug Handle Alternative Geometric Approval Drawing

Layout
Typical Cross Sections
Profile and Superelevation Diagrams

Appendix E – Base Alternative Geometric Approval Drawing

Layout
Typical Cross Sections
Profile and Superelevation Diagrams

Appendix F – Veterans Extension Geometrics and Striping

Layout
Typical Cross Sections
Profile and Superelevation Diagrams

Appendix G – Advanced Planning Studies

Appendix H – Preliminary Cost Estimates

Appendix I – Traffic Operations Report (Cover Page)

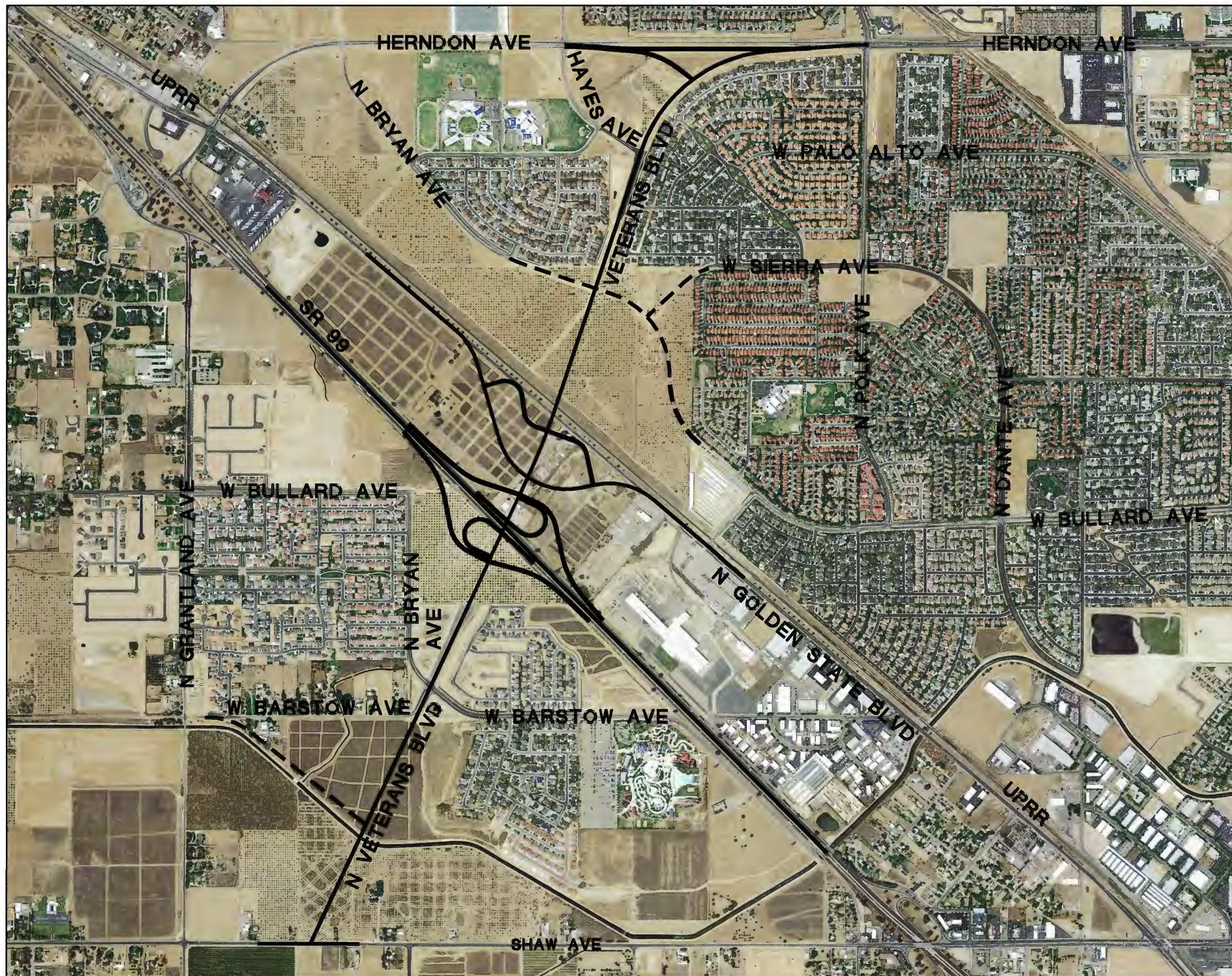
Appendix J – Right of Way Data Sheets, Utility Information Sheets, & Utility Conflict Summary

Appendix K – Right of Way Acquisition Exhibits

Appendix L – Storm Water Data Report (Cover Page)

Appendix M – Transportation Management Plan Data Sheet

APPENDIX A
LOCATION MAP



APPENDIX B

CIRCULATION MAP

(2025 Fresno General Plan)



APPENDIX C

FINAL ENVIRONMENTAL DOCUMENT

(Cover Page)

Veterans Boulevard/State Route 99 Interchange Project/Veterans Boulevard Grade Separation Project

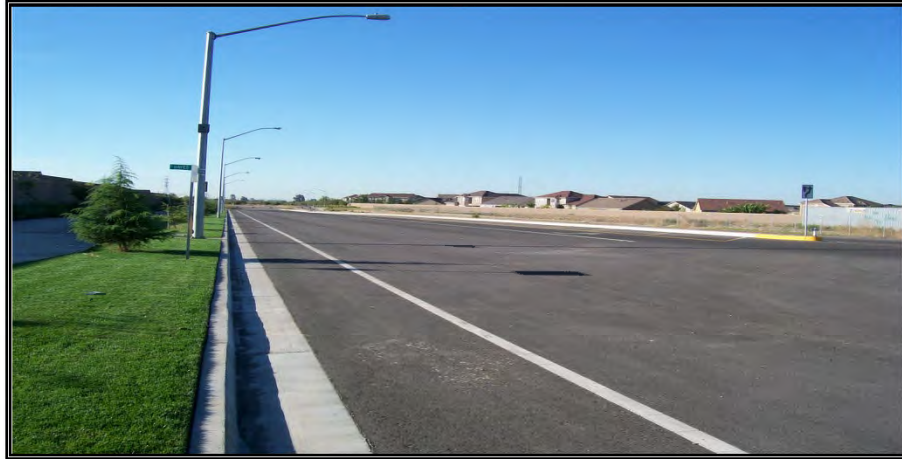
Fresno County, California

06-FRE-99-PM 28.8/30.11

Project ID: 0600000935

SCH No.: 2010021054

Final Environmental Impact Report/ Environmental Assessment with Finding of No Significant Impact



Prepared by the
State of California Department of Transportation
and City of Fresno

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



June 2013

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT

FOR

*Veterans Boulevard/State Route 99 Interchange Project/Veterans Boulevard
Grade Separation Project*

The California Department of Transportation (Caltrans) in cooperation with the City of Fresno has determined that Alternative 4—Jug Handle Alternative would have no significant impact on the human environment. This finding of no significant impact is based on the attached Environmental Assessment which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. The Environmental Assessment provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached Environmental Assessment and incorporated technical reports.

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by Caltrans under its assumption of responsibility pursuant to 23 U.S.C. 327.

Date

6/7/13

Jennifer H. Taylor

Office Chief, Central Region - Environmental
California Department of Transportation
NEPA Lead Agency

SCH No.: 2010021054
06-FRE-99-PM 28.8/30.11
Project ID: 06-0000-0935

Construct a new interchange at Veterans Boulevard/State Route 99 and a grade separation at Veterans Boulevard and Golden State Boulevard on State Route 99 between West Shaw Avenue and Herndon Avenue in north Fresno from post mile 28.8 to post mile 30.11

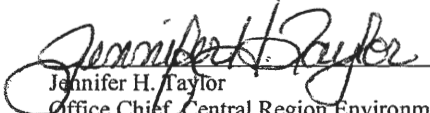
**FINAL ENVIRONMENTAL IMPACT REPORT
/ENVIRONMENTAL ASSESSMENT WITH FINDING OF NO SIGNIFICANT
IMPACT**

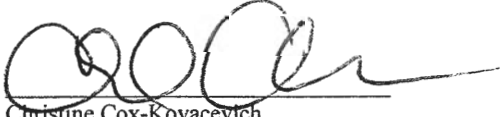
Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 United States Code 4332(2)(C) and 49 United States Code 303

THE STATE OF CALIFORNIA
Department of Transportation

6/7/13
Date of Approval

6/13/13
Date of Approval


Jennifer H. Taylor
Office Chief, Central Region Environmental
California Department of Transportation
NEPA Lead Agency


Christine Cox-Kovacevich
Chief, Central Region Environmental
California Department of Transportation
CEQA Lead Agency

APPENDIX D

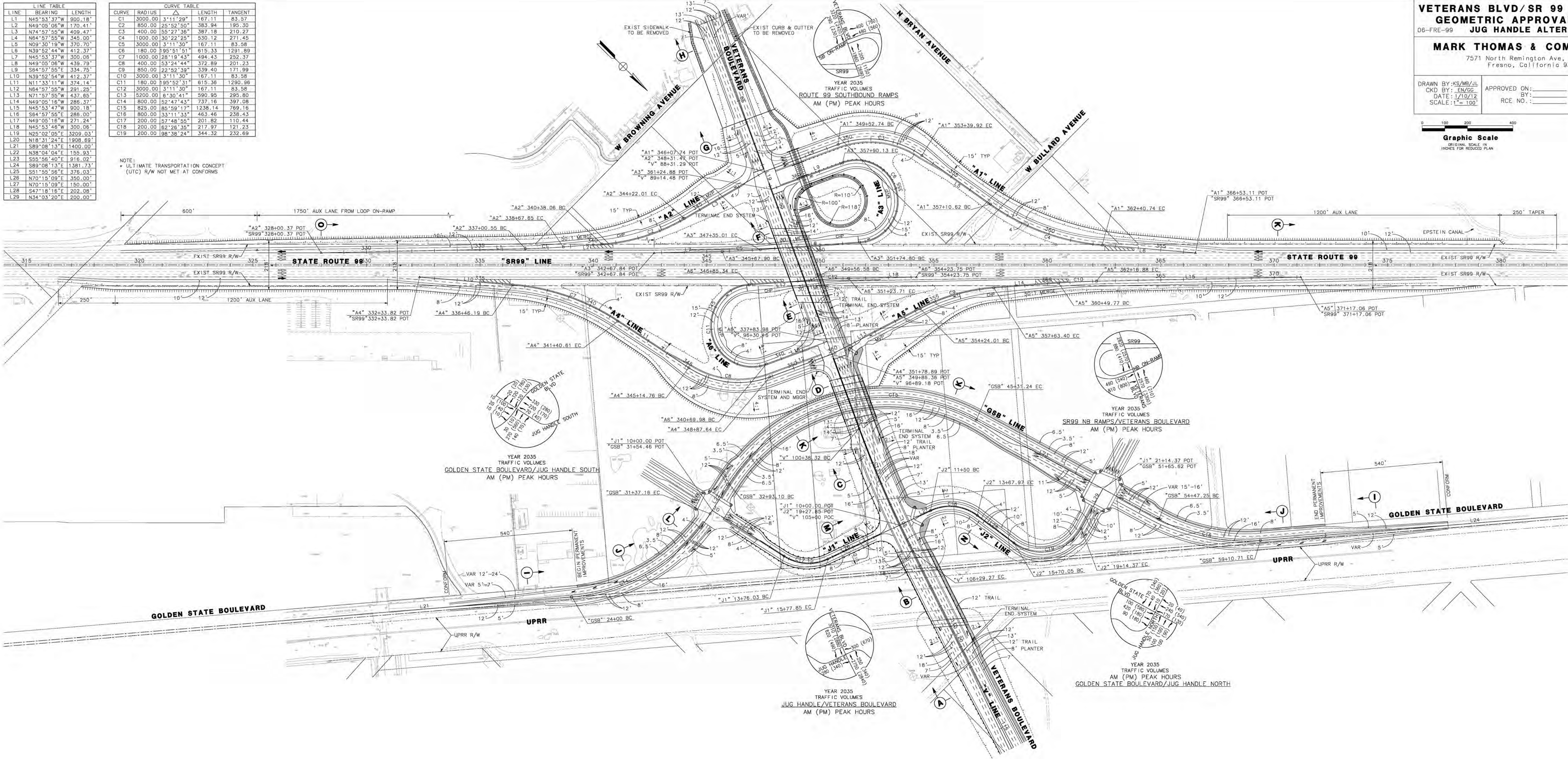
JUG HANDLE ALTERNATIVE

(Geometric Approval Drawing)

LINE	BEARING	LENGTH
L1	N45°53'37"W	900.18'
L2	N49°05'06"W	170.41'
L3	N74°57'55"W	409.47'
L4	N64°57'55"W	345.00'
L5	N09°30'19"W	370.70'
L6	N39°52'44"W	412.37'
L7	N45°53'37"W	300.06'
L8	N49°05'06"W	439.79'
L9	S64°57'55"E	334.75'
L10	N39°52'54"W	412.37'
L11	N11°33'11"W	374.14'
L12	N64°57'55"W	291.25'
L13	N71°57'55"W	437.65'
L14	N49°05'16"W	286.37'
L15	N45°53'47"W	900.18'
L16	S64°57'55"E	286.00'
L17	N49°05'16"W	271.24'
L18	N45°53'46"W	300.06'
L19	N25°02'05"E	3209.03'
L20	N18°31'24"E	1908.69'
L21	S89°08'13"E	1400.00'
L22	N38°04'04"E	155.93'
L23	S55°56'40"E	916.02'
L24	S89°08'13"E	1381.73'
L25	S51°55'56"E	376.03'
L26	N70°15'09"E	350.00'
L27	N70°15'09"E	150.00'
L28	S47°18'16"E	202.08'
L29	N34°03'20"E	200.00'

CURVE	RADIUS	Δ	LENGTH	TANGENT
C1	3000.00	3°11'29"	167.11	83.57
C2	850.00	25°52'50"	383.94	195.30
C3	400.00	55°27'36"	387.18	210.27
C4	1000.00	30°22'25"	530.12	271.45
C5	3000.00	3°11'30"	167.11	83.58
C6	180.00	195°51'51"	615.33	1291.89
C7	1000.00	28°18'43"	494.43	252.37
C8	400.00	53°24'44"	372.89	201.23
C9	850.00	22°52'39"	339.40	171.99
C10	3000.00	3°11'30"	167.11	83.58
C11	180.00	195°52'31"	615.36	1290.96
C12	3000.00	3°11'30"	167.11	83.58
C13	5200.00	6°30'41"	590.95	295.80
C14	800.00	52°47'43"	737.16	397.08
C15	825.00	85°59'17"	1238.14	769.16
C16	800.00	33°11'33"	463.46	238.43
C17	200.00	57°48'55"	201.82	110.44
C18	200.00	62°26'35"	217.97	121.23
C19	200.00	98°38'24"	344.32	232.69

NOTE:
 * ULTIMATE TRANSPORTATION CONCEPT
 (UTC) R/W NOT MET AT CONFORMS



VETERANS BLVD/SR 99 INTERCHANGE **GEOMETRIC APPROVAL DRAWING** 06-FRE-99 **JUG HANDLE ALTERNATIVE**

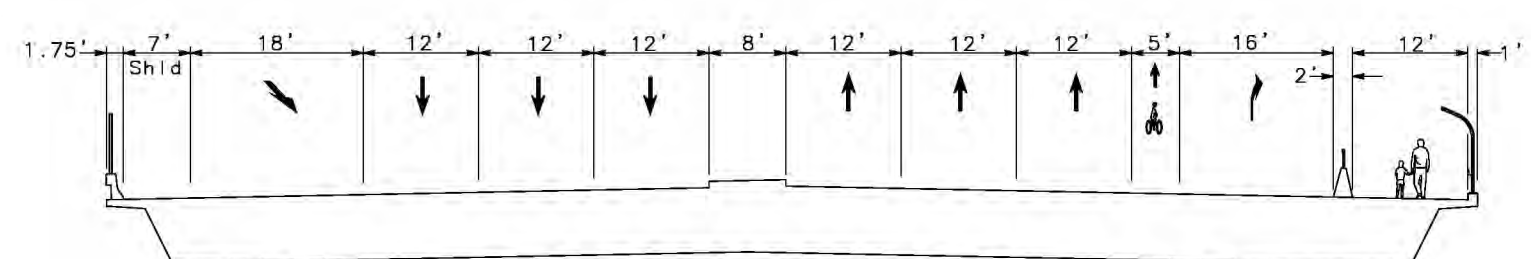
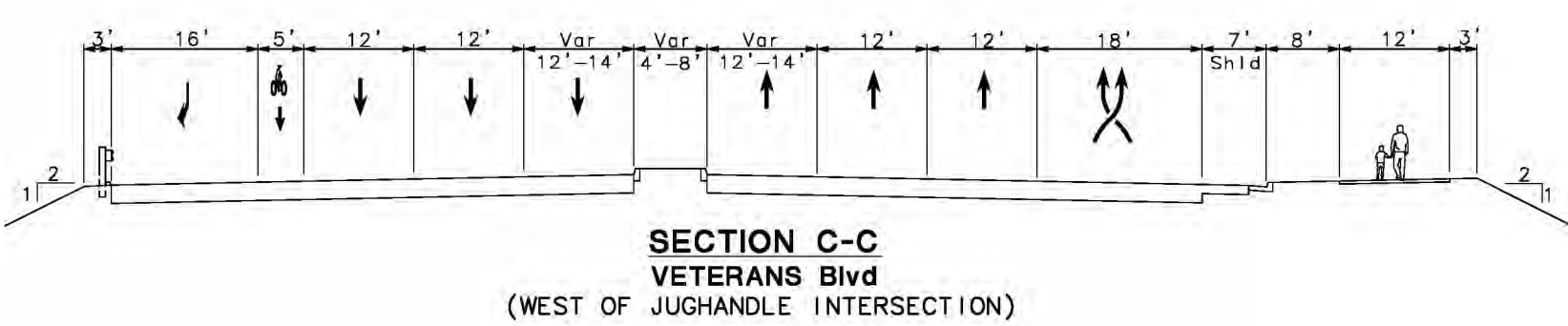
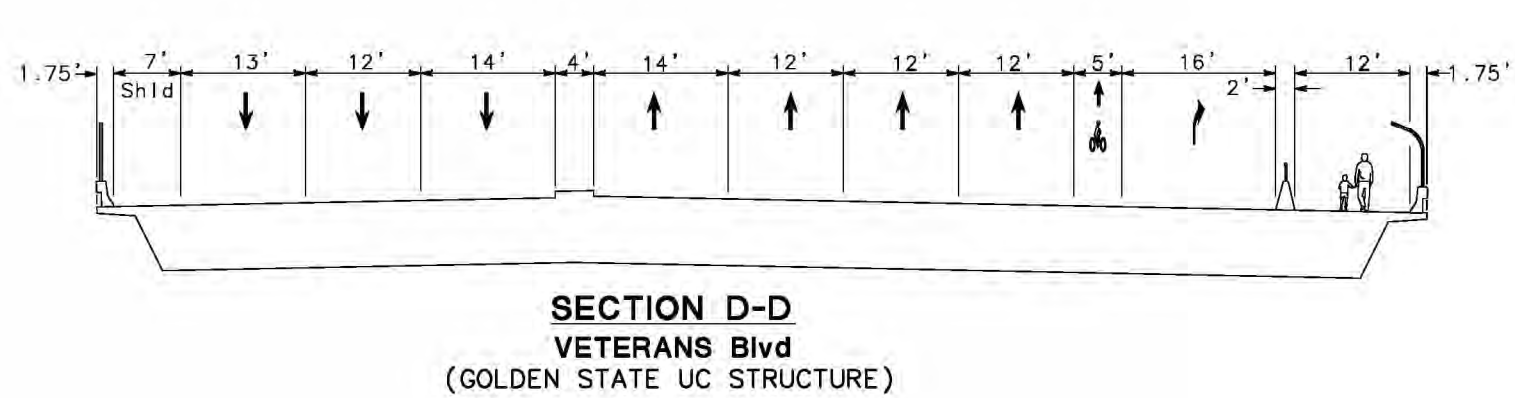
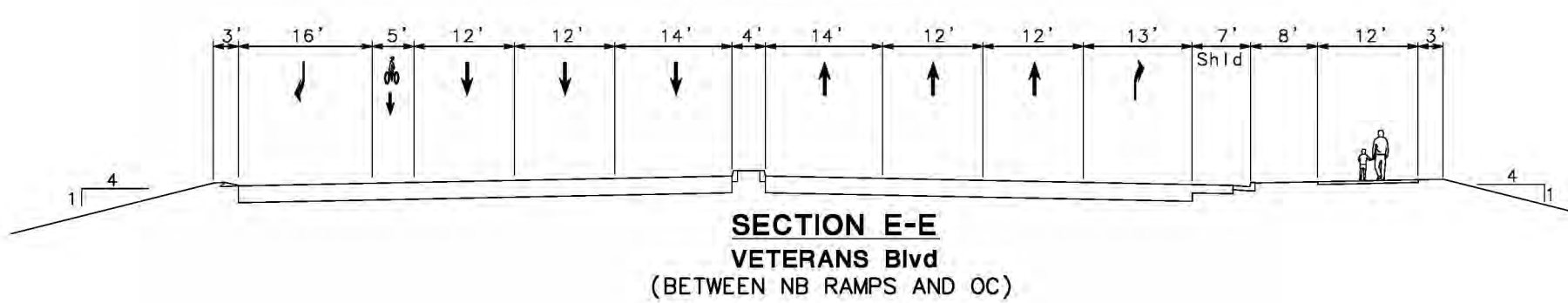
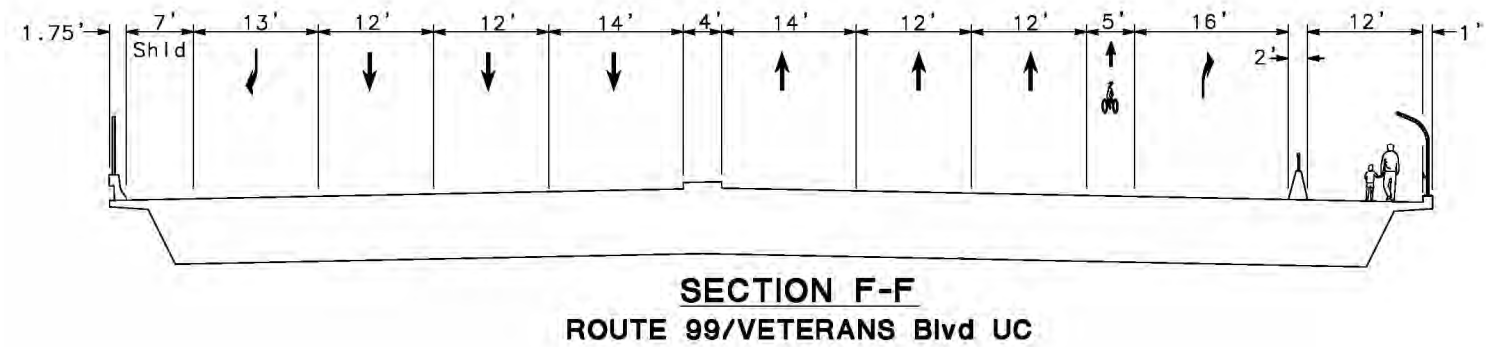
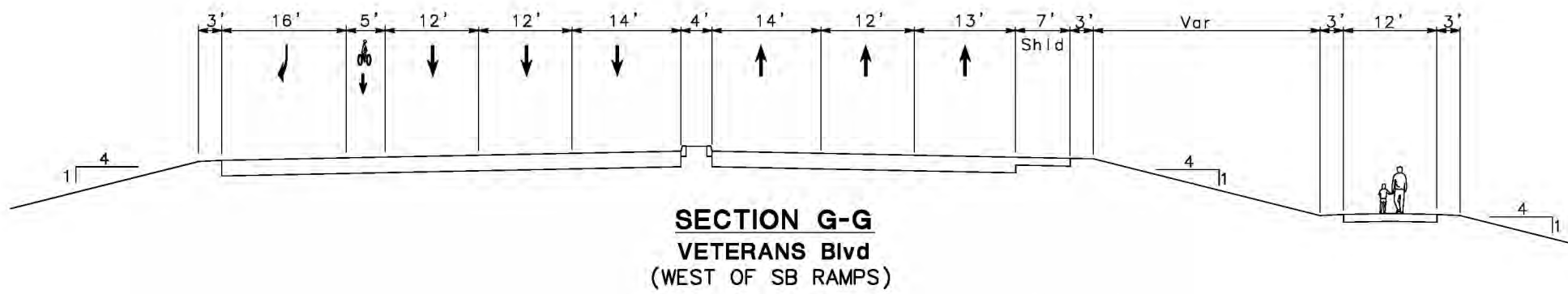
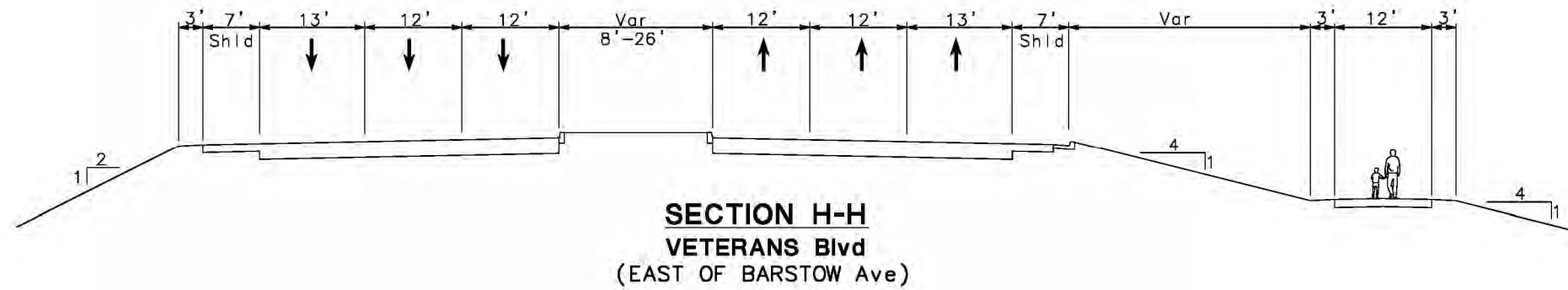
MARK THOMAS & COMPANY, INC.
 7571 North Remington Ave, Suite 102
 Fresno, California 93711

DRAWN BY: KS/MB/JL CKD BY: EN/GG DATE: 1/10/12 SCALE: 1"=100'	APPROVED ON: _____	JOB NO. FN-12110	SHEET 1
	BY: _____ RCE NO.: _____	FILE NO. VET_GAD.dwg	OF 3

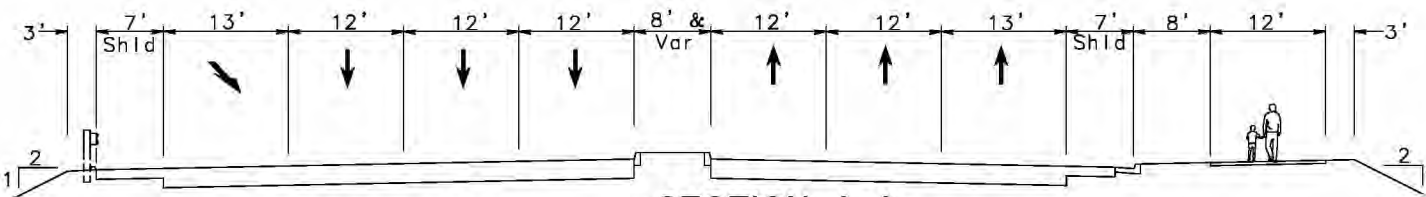


DRAFT

VETERANS BOULEVARD SECTIONS

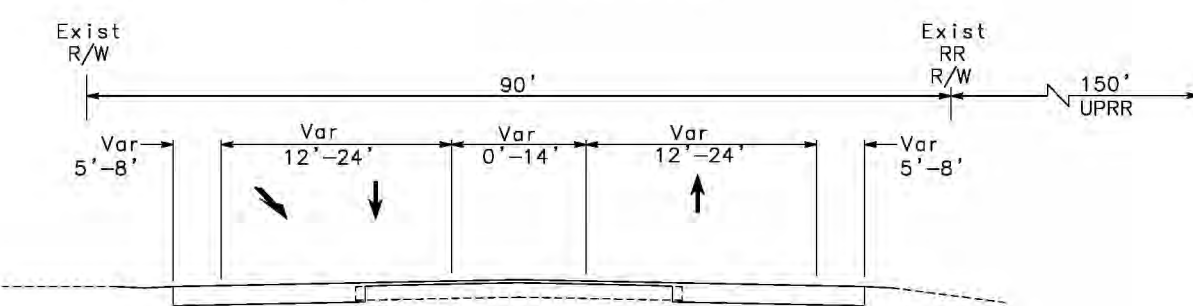
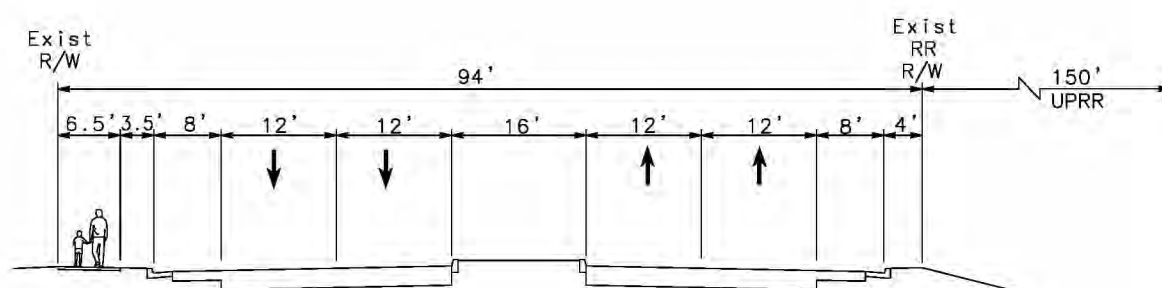
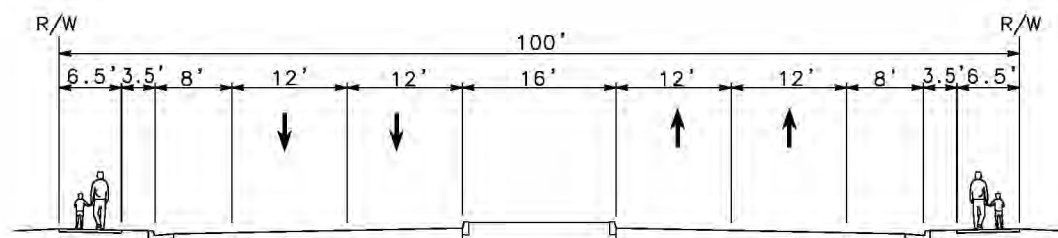
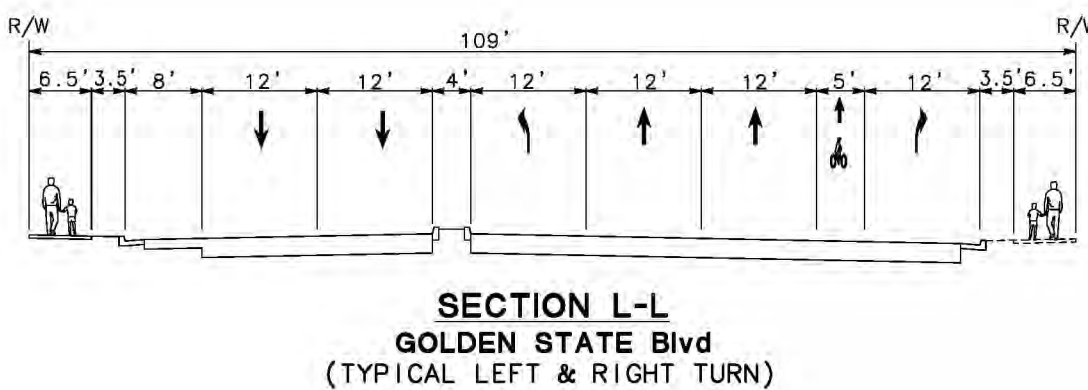
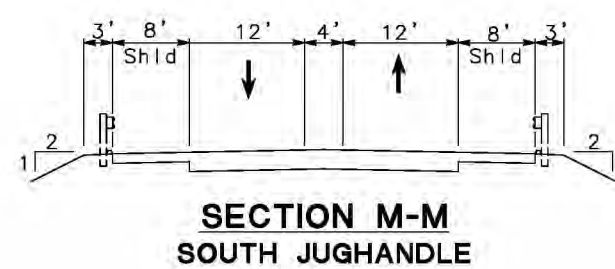
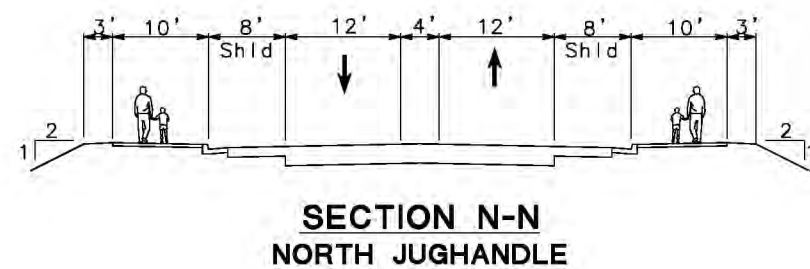
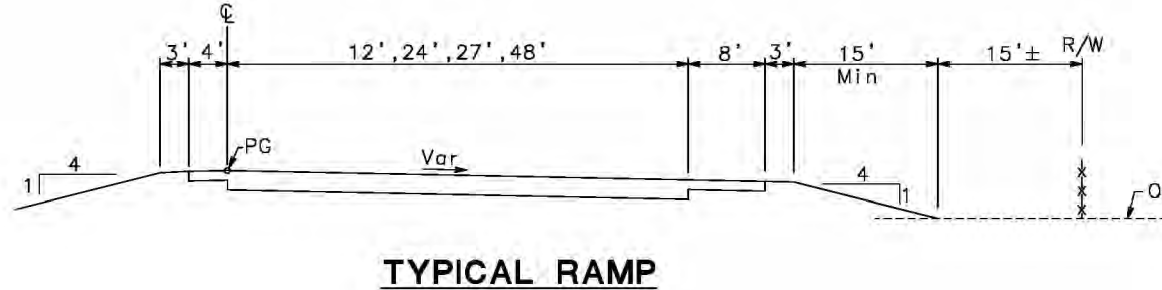


SECTION B-B
VETERANS Blvd
(UPRR OH STRUCTURE)



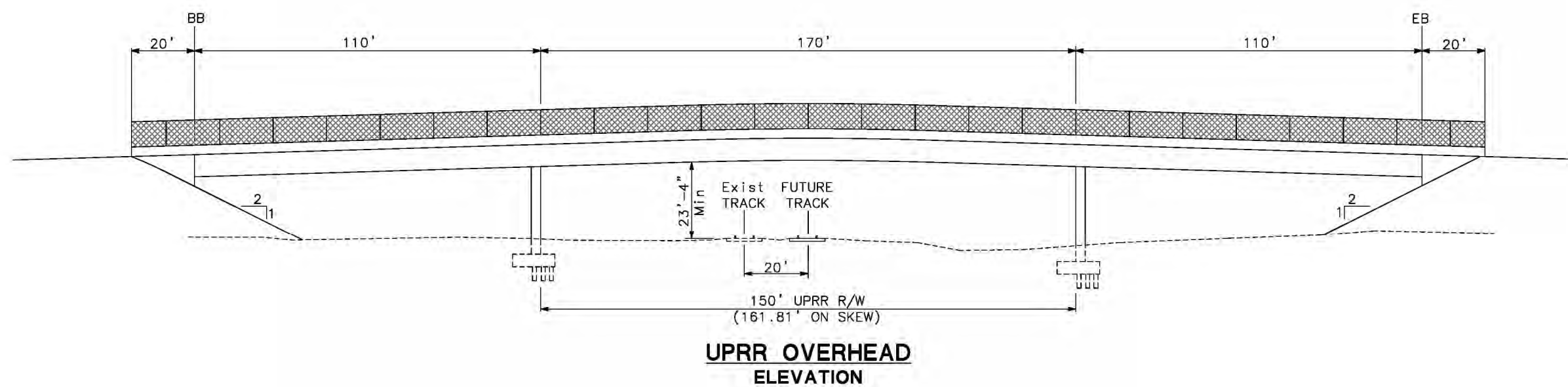
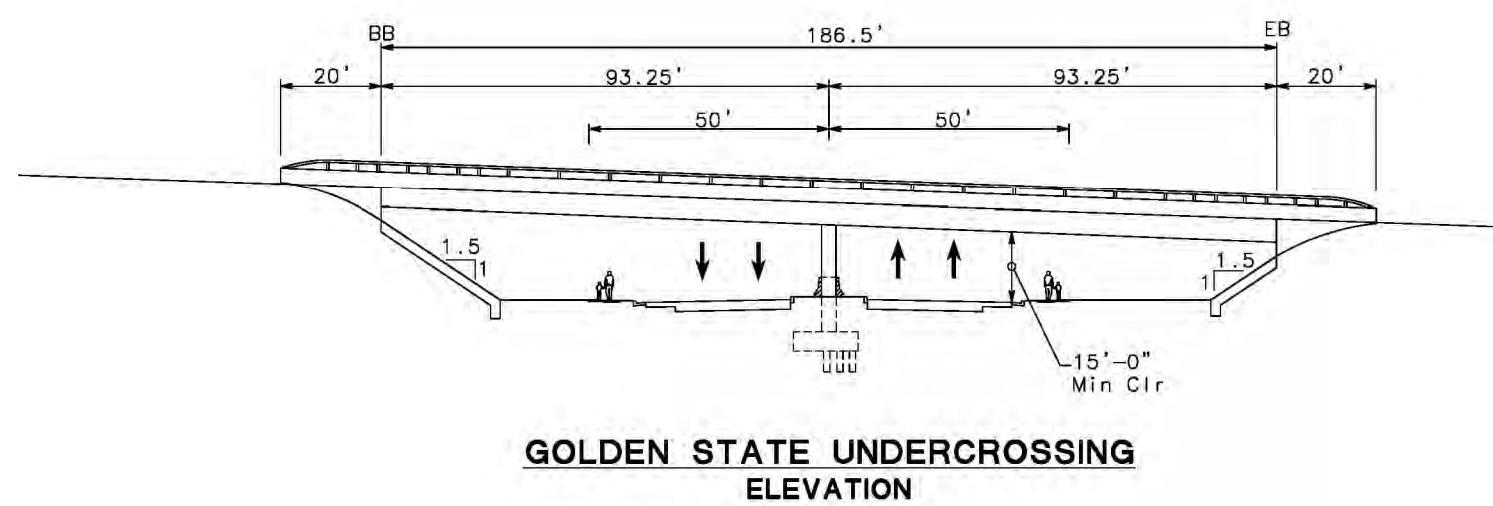
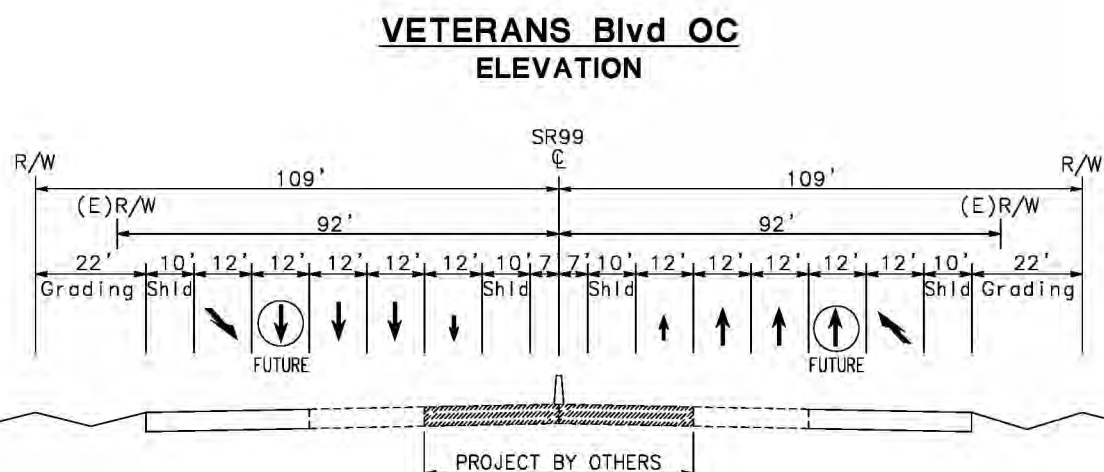
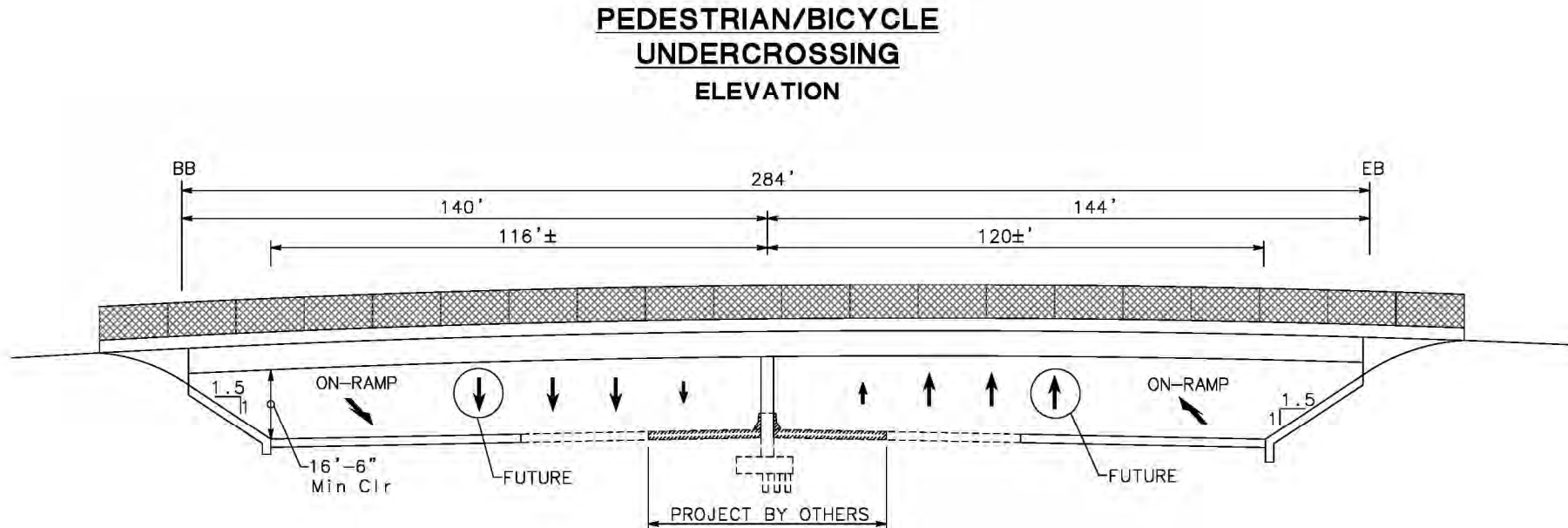
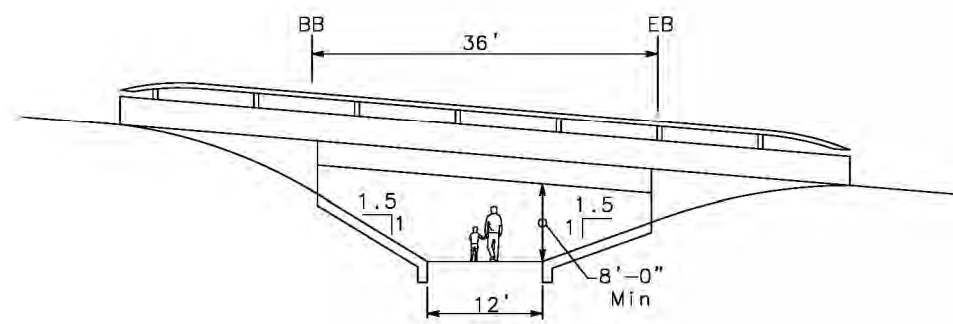
SECTION A-A
VETERANS Blvd
(EAST OF UPRR)

GOLDEN STATE, JUG HANDLE, AND RAMP SECTIONS



SECTION I-I
GOLDEN STATE Blvd
(AT CONFORMS)
* NORTH END MIRRORED

STRUCTURAL ELEVATIONS



VETERANS BLVD/SR 99 INTERCHANGE
GEOMETRIC APPROVAL DRAWING
06-FRE-99 JUG HANDLE ALTERNATIVE

MARK THOMAS & COMPANY, INC.
7571 North Remington Ave, Suite 102
Fresno, California 93711

DRAWN BY: GS/MB/KS CKD BY: RH DATE: 1/6/12 SCALE: NTS	APPROVED ON: _____ BY: _____ RCE NO.: _____	JOB NO. 58-0268B	SHEET 2 OF 3
		FILE NO. VET_GAD.dwg	

DRAFT

DESIGN DESIGNATION

(STATE ROUTE 99)
2015 ADT = 80,000
2035 ADT = 135,500
TI = 13

(RAMPS)
TI = 10

(VETERANS BLVD)
TI = 10

D = 50%
T = 10%
V = 70 MPH

D = 50%
T = 10%
V = 50 MPH

VETERANS BLVD/SR 99 INTERCHANGE
GEOMETRIC APPROVAL DRAWING
JUG HANDLE ALTERNATIVE

MARK THOMAS & COMPANY, INC.
7571 North Remington Ave, Suite 102
Fresno, California 93711

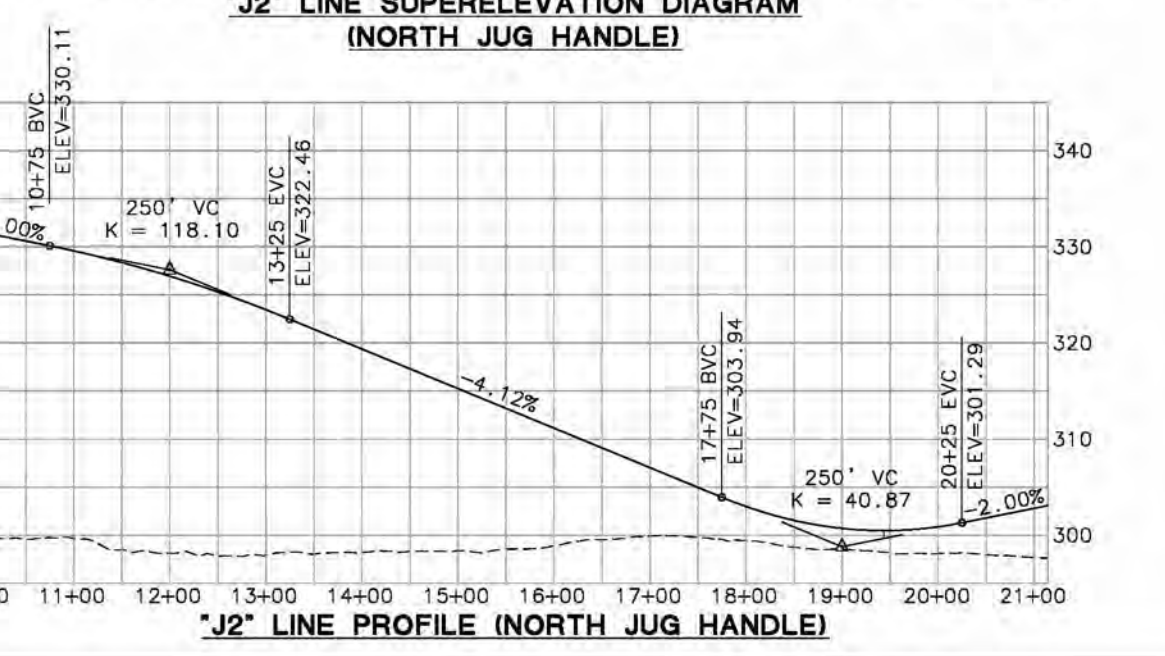
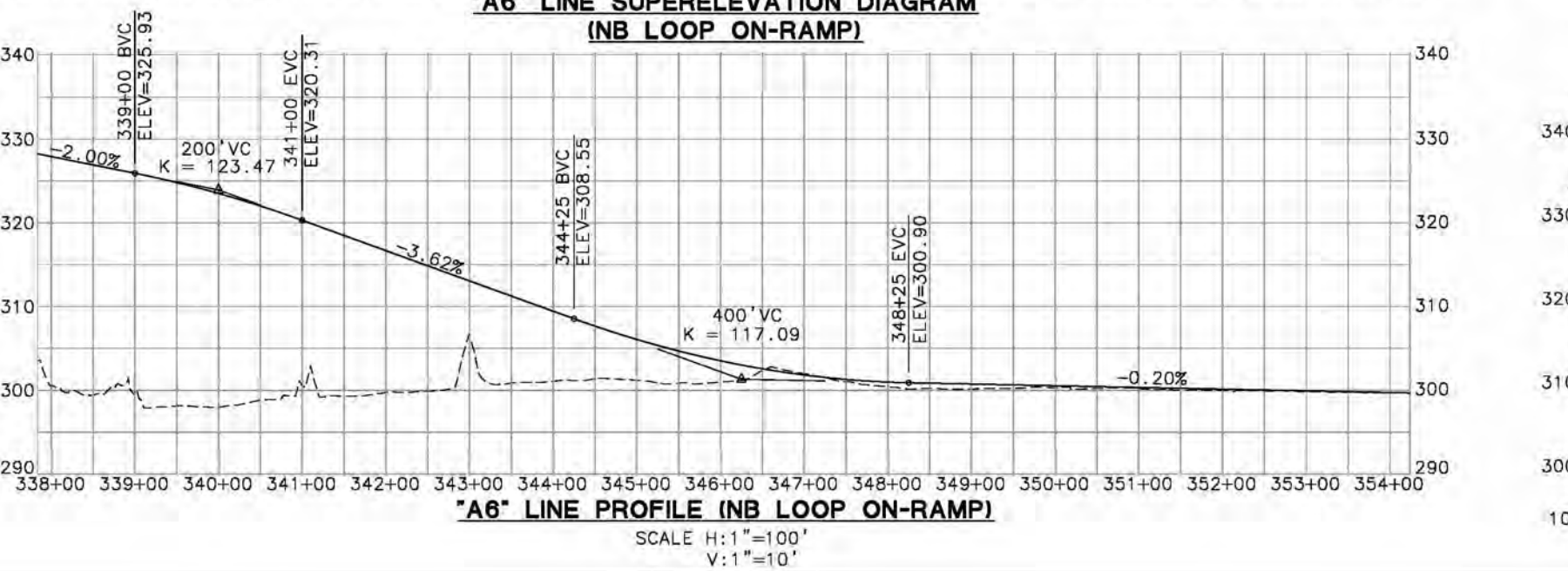
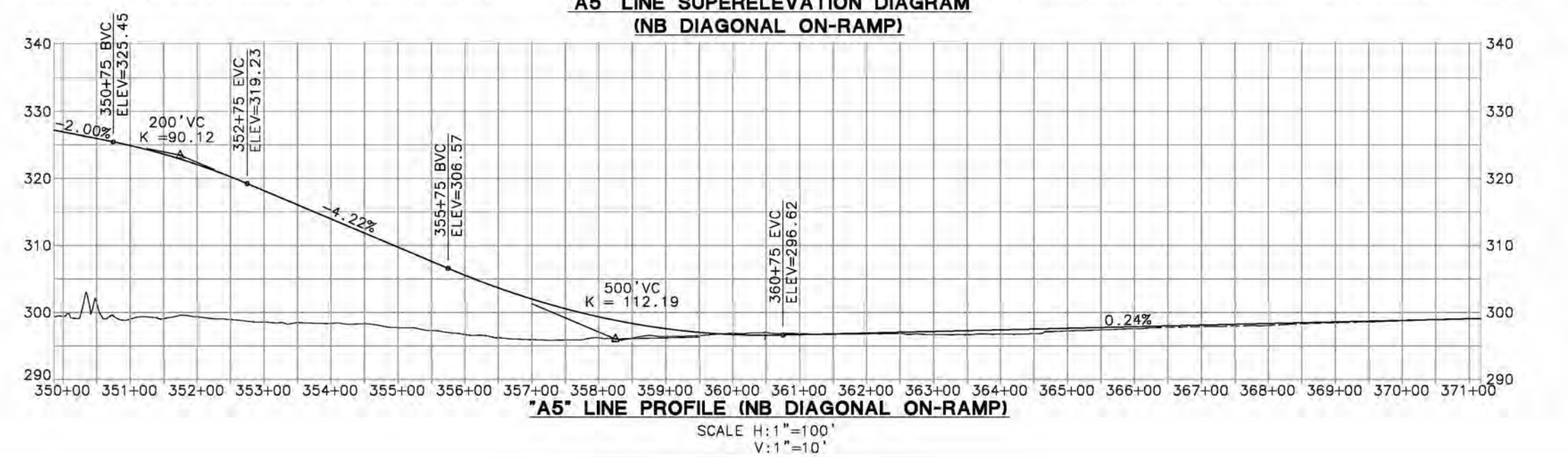
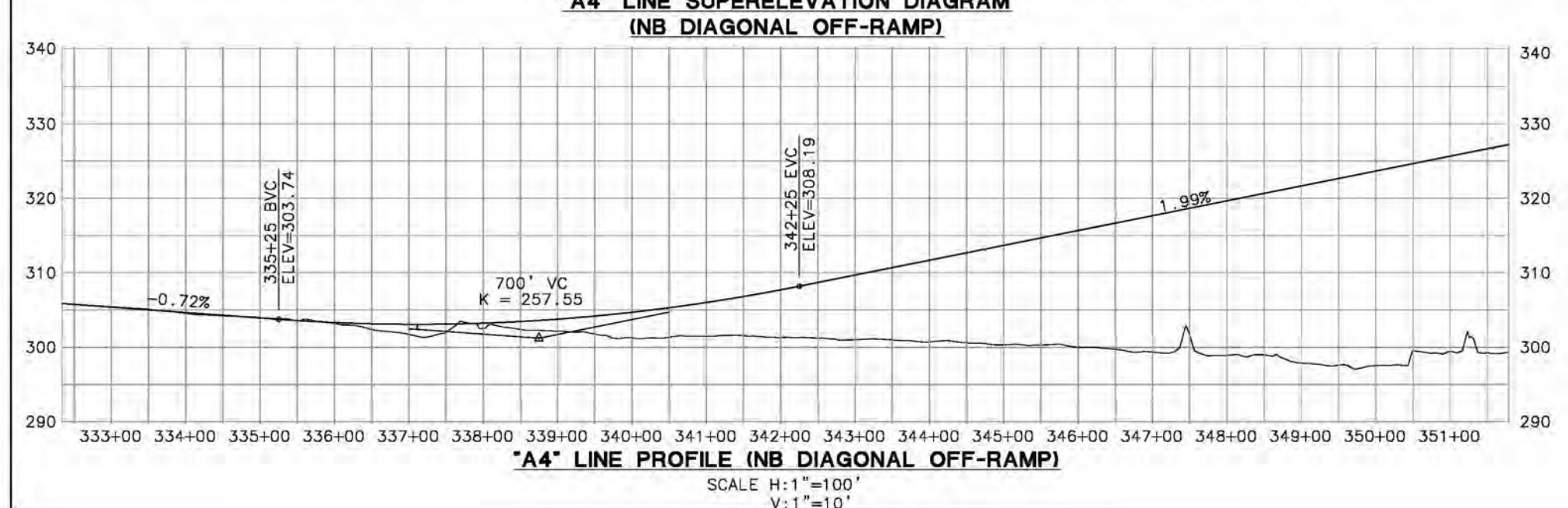
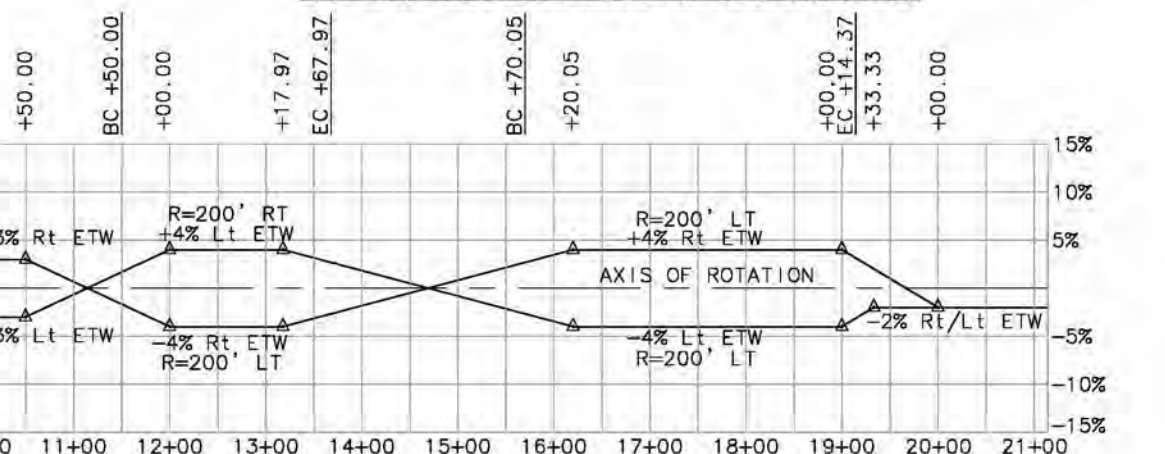
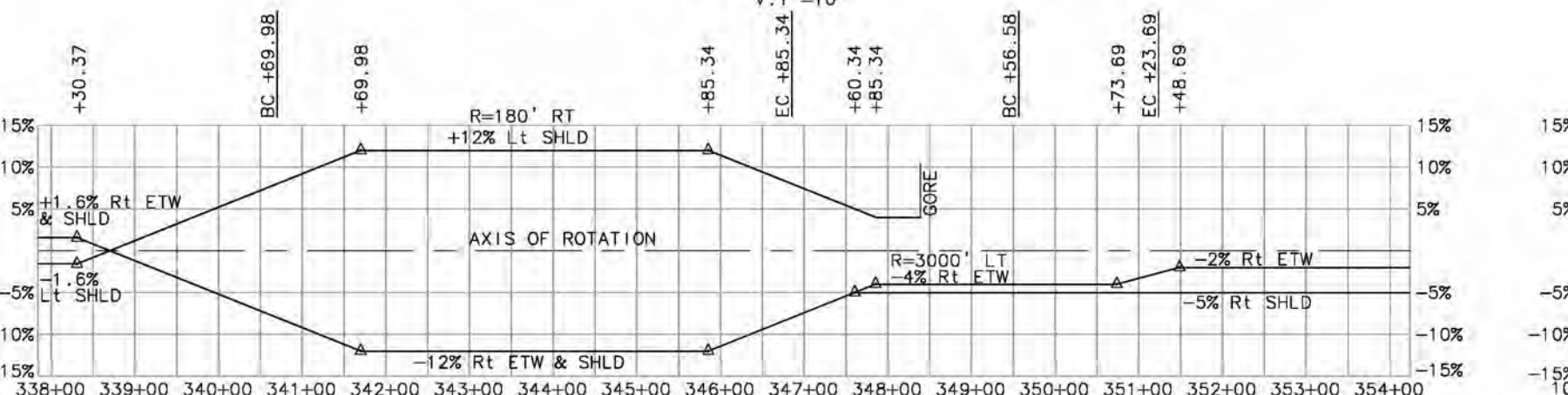
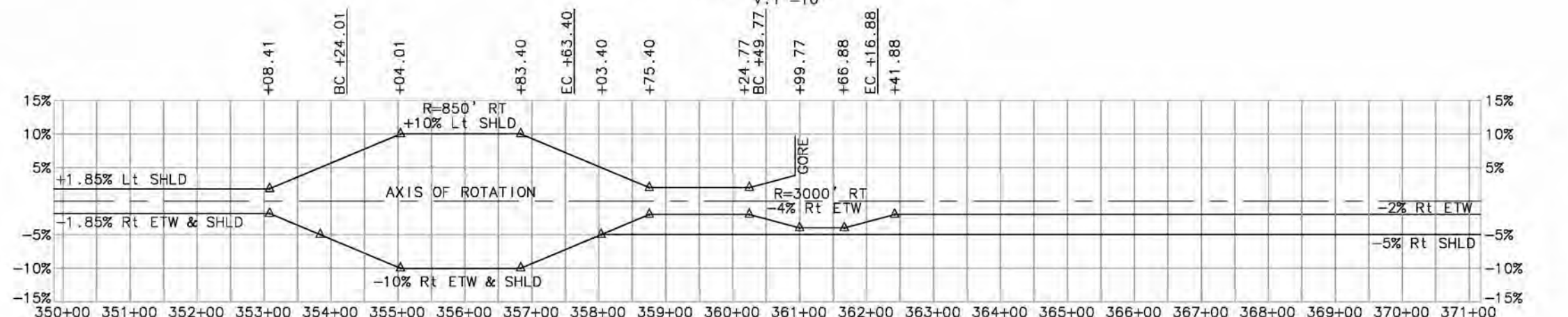
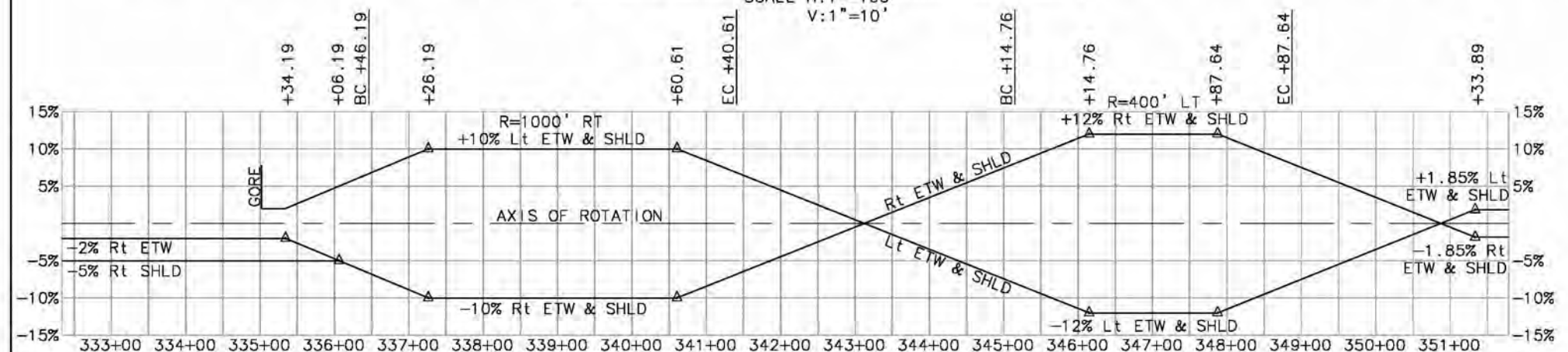
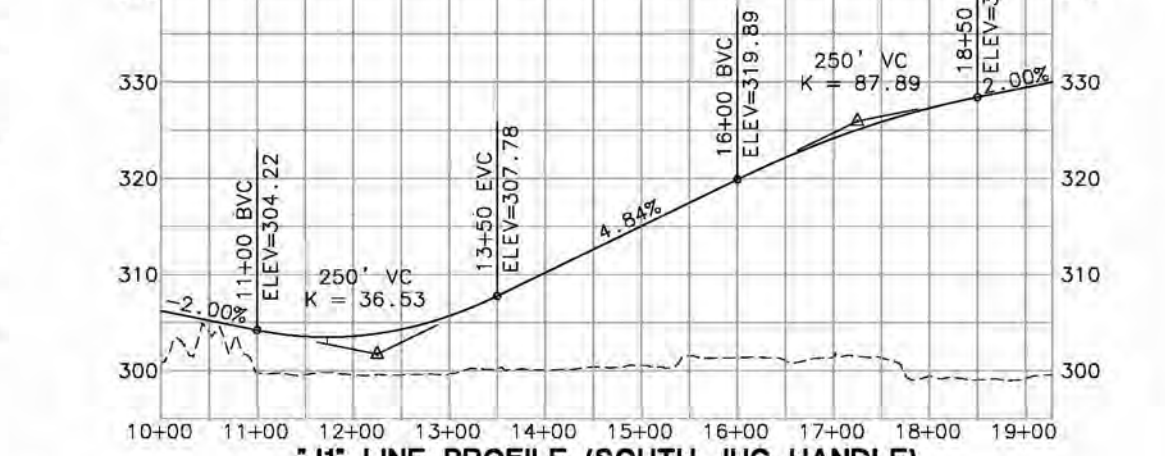
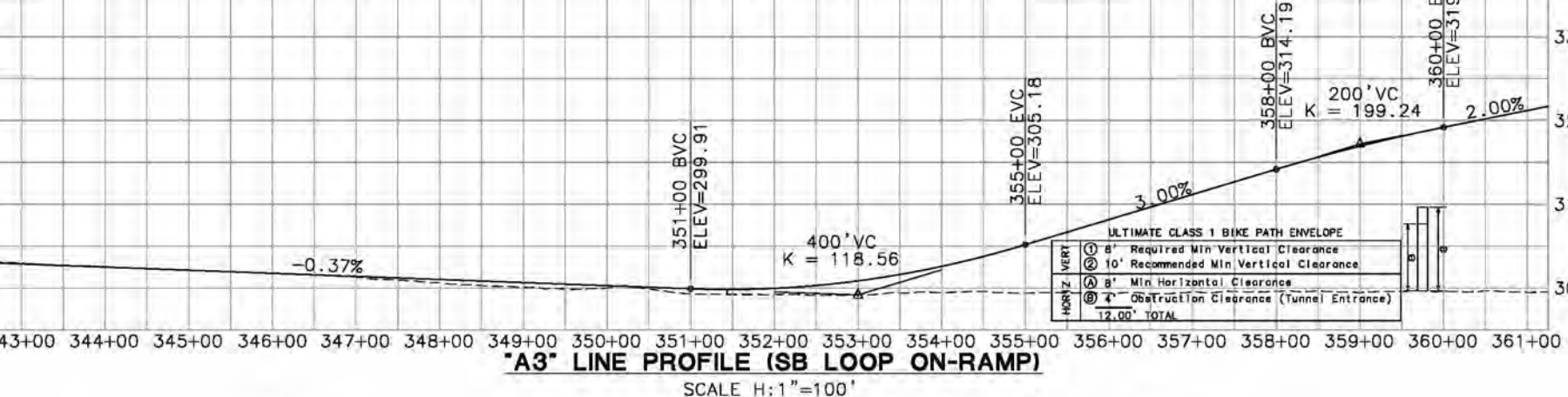
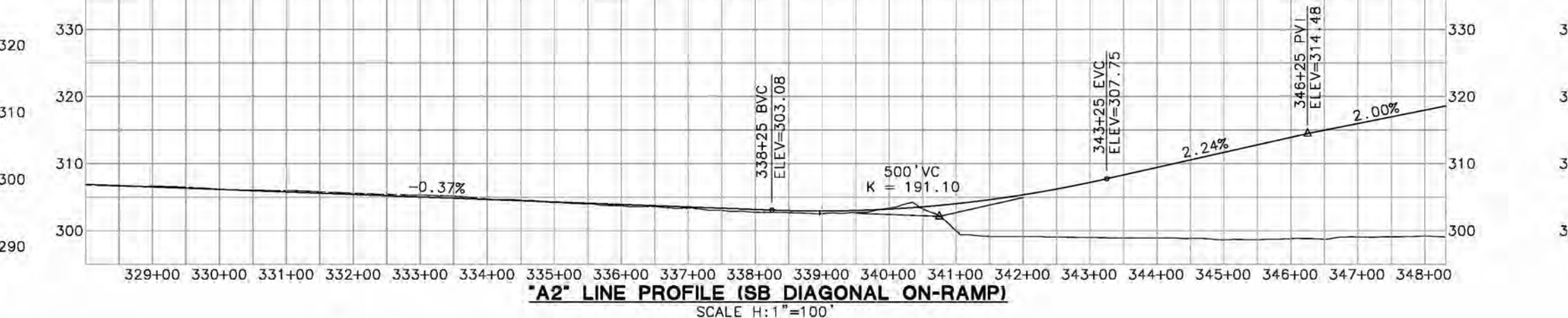
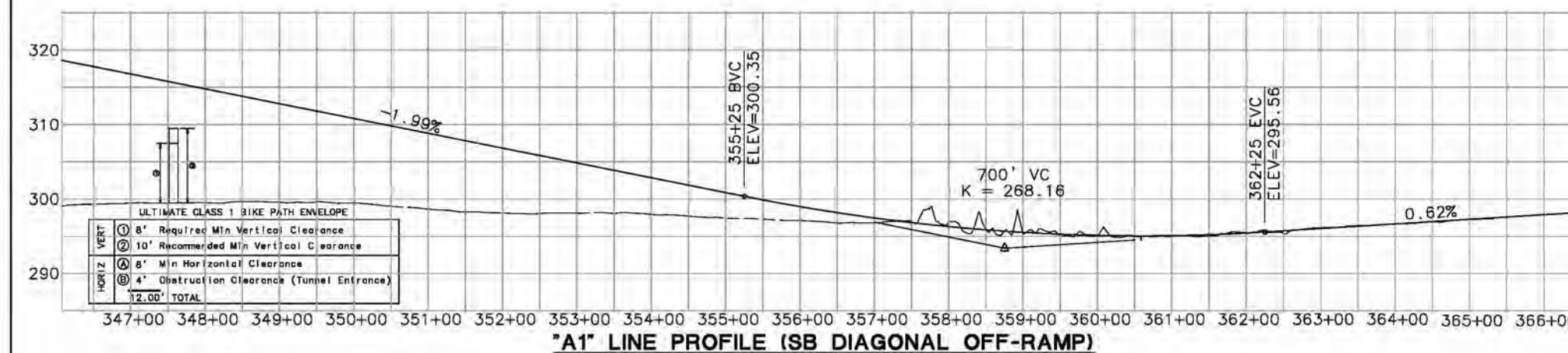
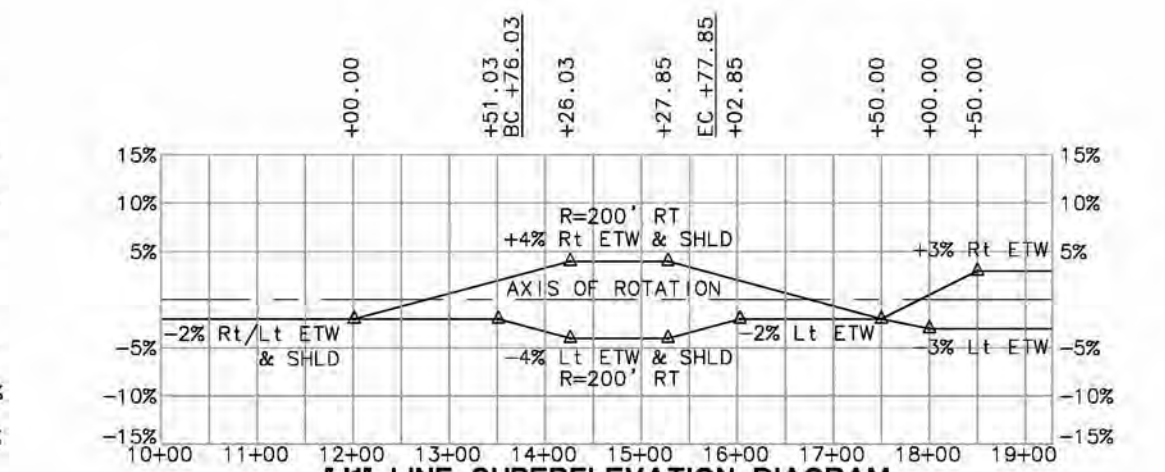
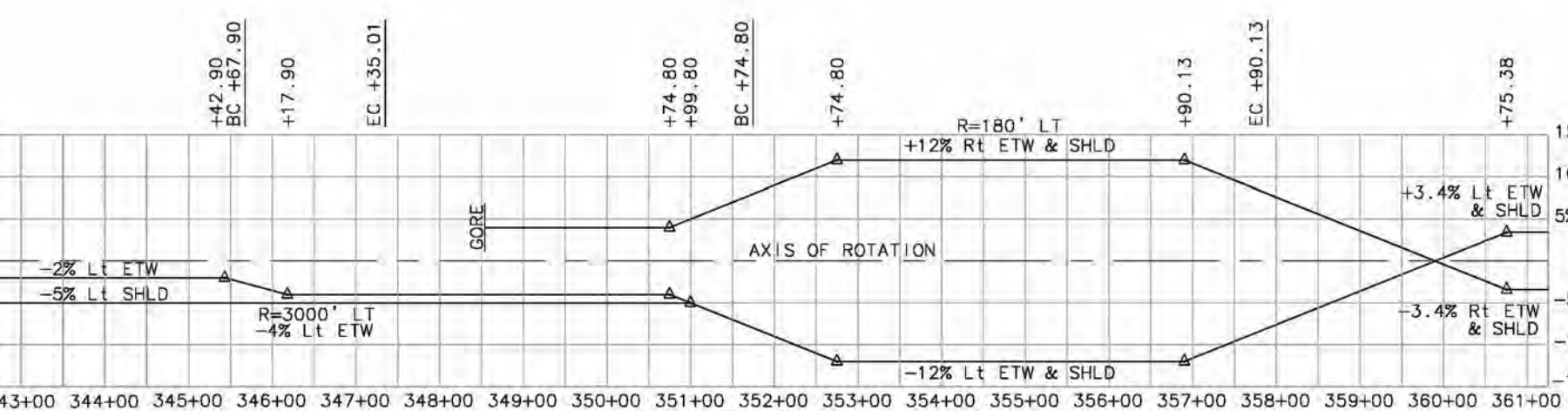
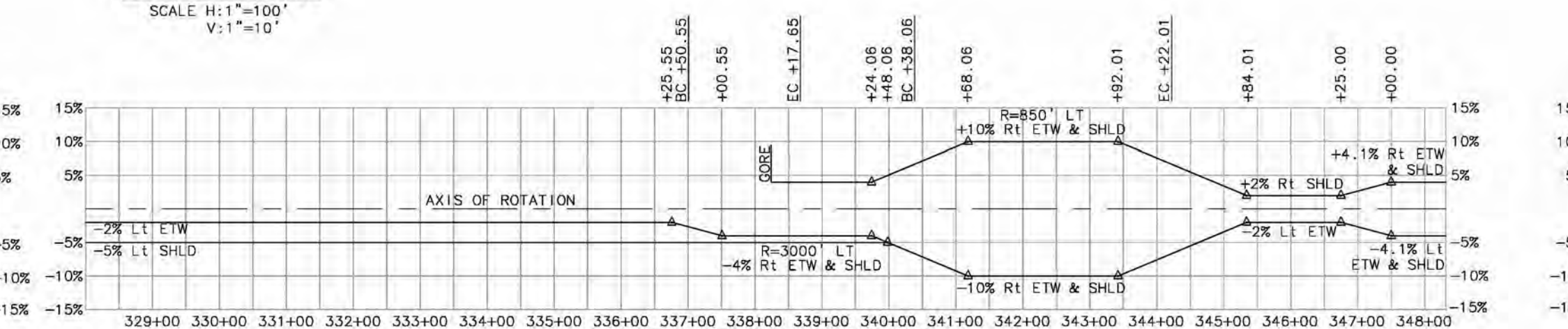
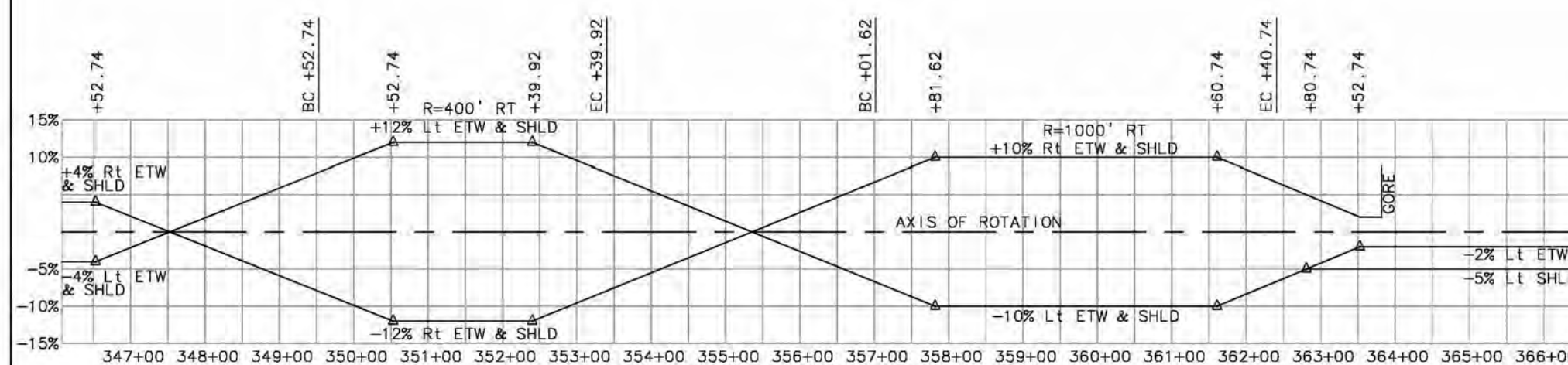
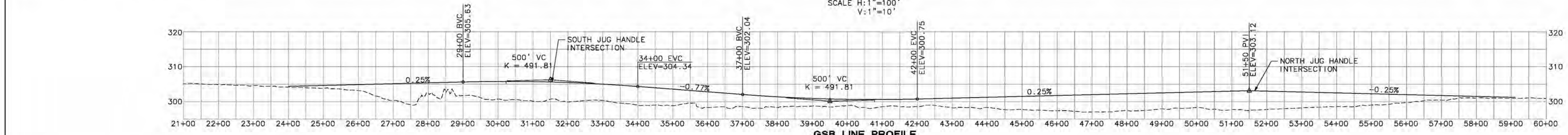
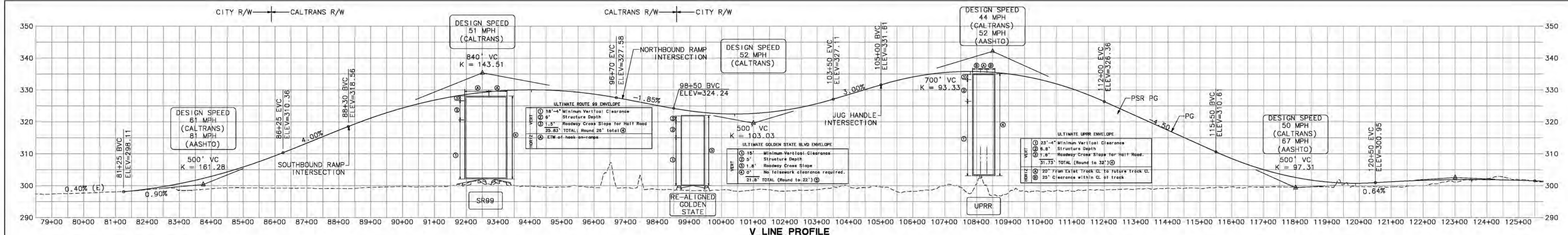
DRAWN BY: GG/MB/KS
CKD BY: RH
DATE: 1/6/12
SCALE: 1"=100'

APPROVED ON: _____
BY: _____
RCE NO.: _____

JOB NO.
58-02688
FILE NO.
VET_GAD.dwg

SHEET
3
OF
3

DRAFT



APPENDIX E

BASE ALTERNATIVE

(Geometric Approval Drawing)

CURVE TABLE				
CURVE	RAD US	Δ	LENGTH	TANGENT
C1	3500.00	3°11'29"	167.11	83.57
C2	800.00	25°52'50"	383.94	195.30
C3	400.00	55°27'36"	587.18	210.21
C4	1000.00	30°22'25"	330.12	271.45
C5	3000.00	3°11'30"	167.11	83.58
C6	1800.00	95°51'51"	615.33	1291.69
C7	800.00	9°51'51"	394.43	252.37
C8	400.00	53°24'34"	372.89	201.23
C9	850.00	22°52'39"	339.40	171.99
C10	3000.00	3°11'30"	167.11	83.58
C11	1800.00	95°52'31"	615.36	1290.96
C12	3000.00	3°11'30"	167.11	83.58
C13	5200.00	6°30'41"	590.95	295.80
C14	5006.00	1°42'34"	149.39	74.69
C15	4000.00	2°41'38"	188.08	94.05
C16	4000.00	4°24'12"	383.89	192.04
C17	3000.00	3°11'30"	167.11	83.58
C18	2995.00	1°30'39"	78.98	39.49
C19	5006.00	3°46'18"	987.43	493.90
C20	5006.00	3°46'18"	197.88	98.95

7571 North Remington Ave, Suite 102
Fresno, California 93711

OF



DRAFT

SECTION H-H
VETERANS Blvd
(EAST OF BARSTOW Ave)

SECTION G-G
VETERANS Blvd
(WEST OF SB RAMPS)

SECTION F-F
ROUTE 99/VETERANS Blvd UC

SECTION E-E
VETERANS Blvd
(BETWEEN NB RAMPS AND OC)

SECTION D-D
VETERANS Blvd
(BETWEEN NB RAMPS AND GSB)

SECTION C-C
VETERANS Blvd
(WEST OF GOLDEN STATE RAMPS)

SECTION B-B
VETERANS Blvd
(UPRR OH STRUCTURE)

SECTION A-A
VETERANS Blvd
(EAST OF UPRR)

TYPICAL RAMP

SECTION J-J
GOLDEN STATE Blvd
(MEDIAN RAMPS)

SECTION I-I
GOLDEN STATE Blvd
(NEAR SOUTH AND NORTH END)

SECTION H-H
GOLDEN STATE Blvd
(AT CONFORMS)
* NORTH END MIRRORED

MARK T
7571 N
F

DRAWN BY: GG/MB/KS
CKD BY: RH
DATE: 1/6/12
SCALE: NTS

**PEDESTRIAN/BICYCLE
UNDERCROSSING
ELEVATION**

**VETERANS Blvd OC
ELEVATION**

**SECTION K-K
STATE ROUTE 99**

* ULTIMATE TRANSPORTATION CONCEPT (UTC)
R/W NOT MET AT CONFORMS

DESIGN DESIGNATION

(STATE ROUTE 99)
2015 ADT = 80,000
2035 ADT = 135,500
TI = 13

(RAMPS)
TI = 10

(VETERANS BLVD)
TI = 10

**UPRR OVERHEAD
ELEVATION**

DRAWN BY: <u>GG/MB/KS</u> CKD BY: <u>RH</u> DATE: <u>1/6/12</u> SCALE: <u>NTS</u>	APPROVED ON: _____ BY: _____ RCE NO.: _____	JOB NO. 58-0268B FILE NO. VET_GAD.dwg	SHEET 2 OF 3
--	---	--	---

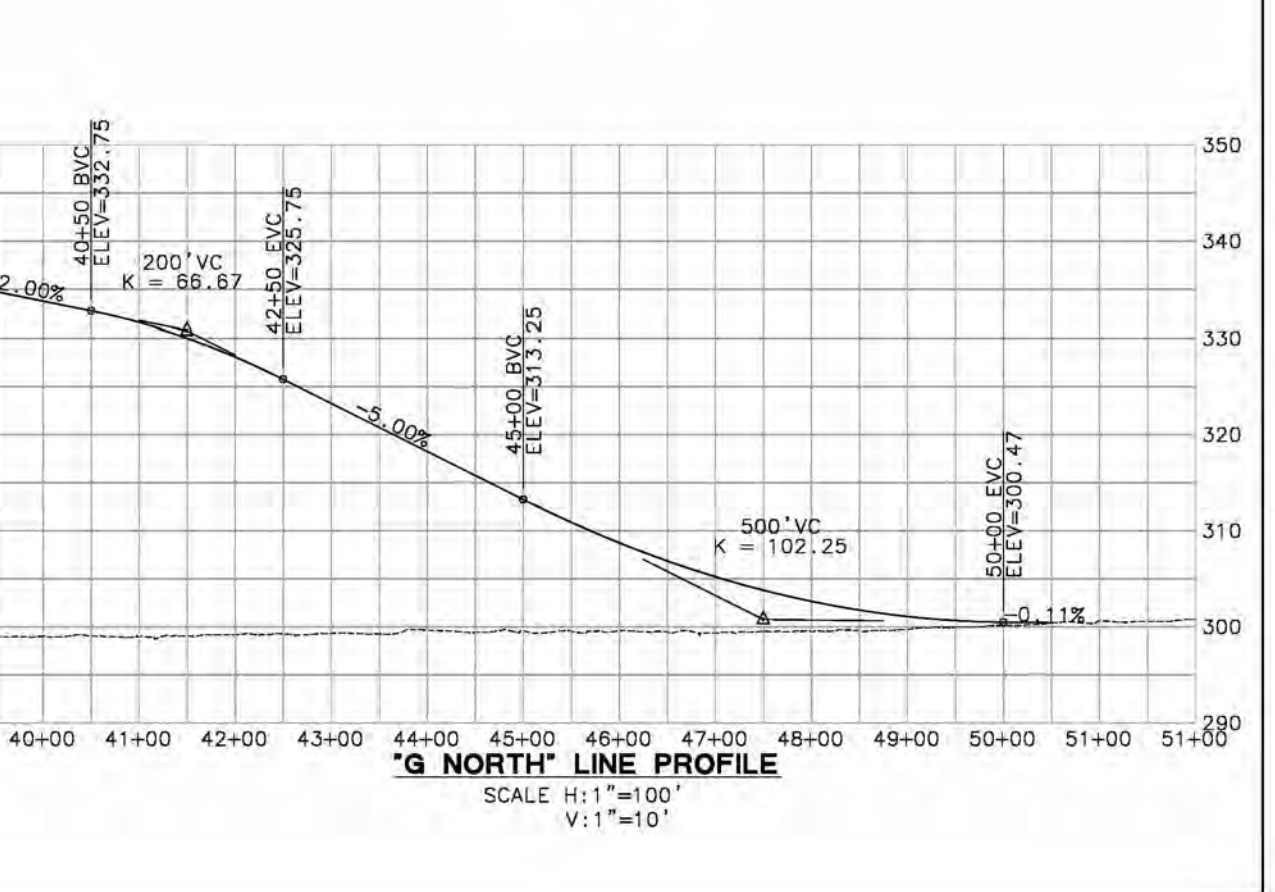
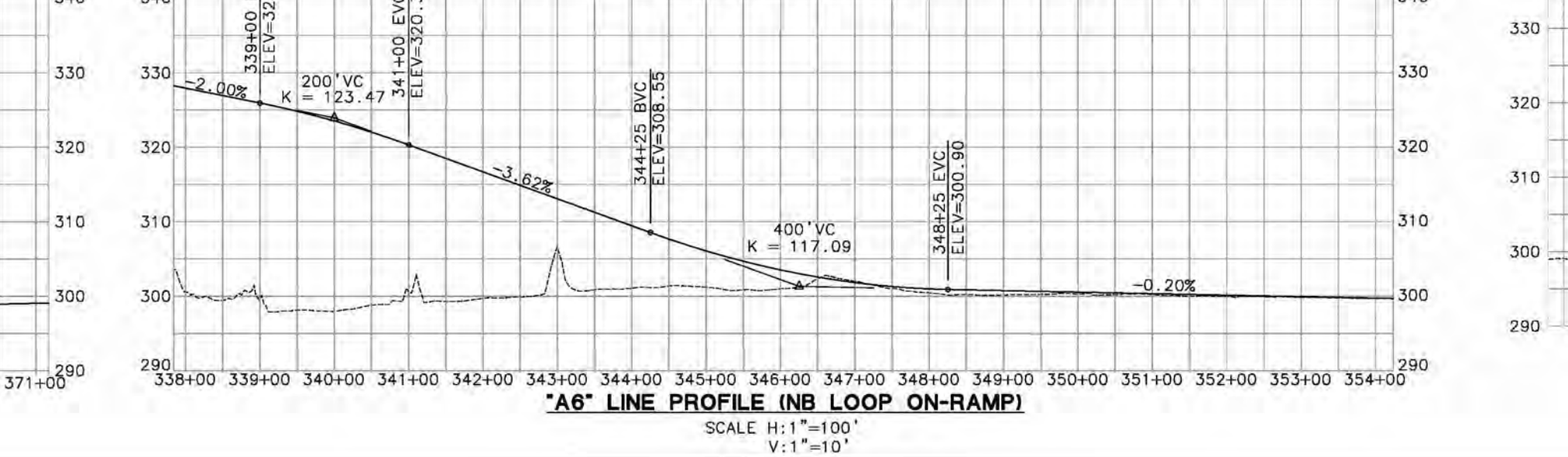
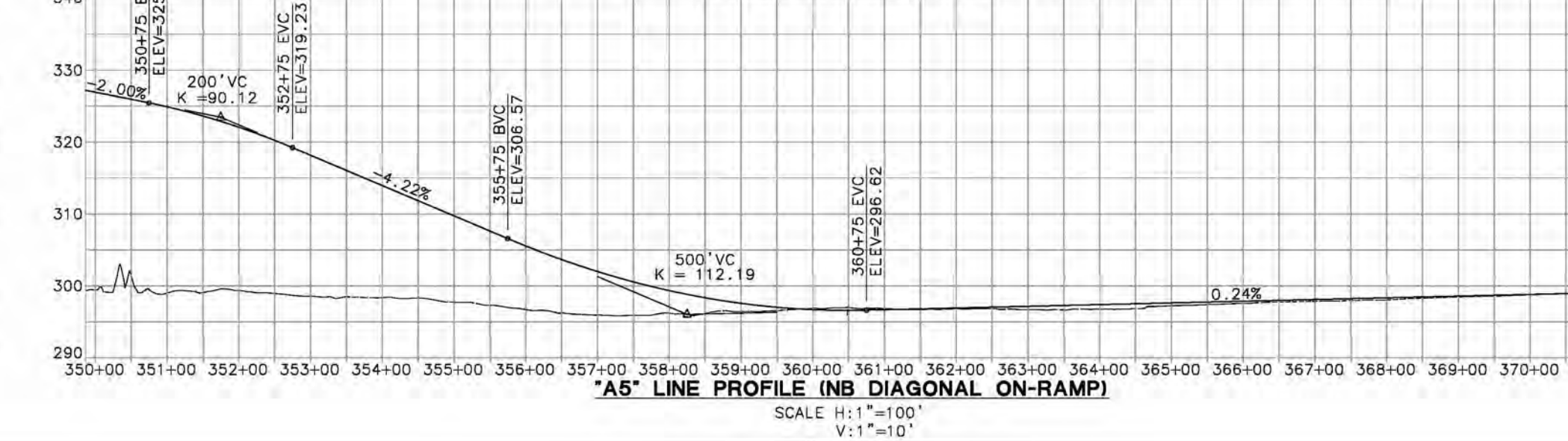
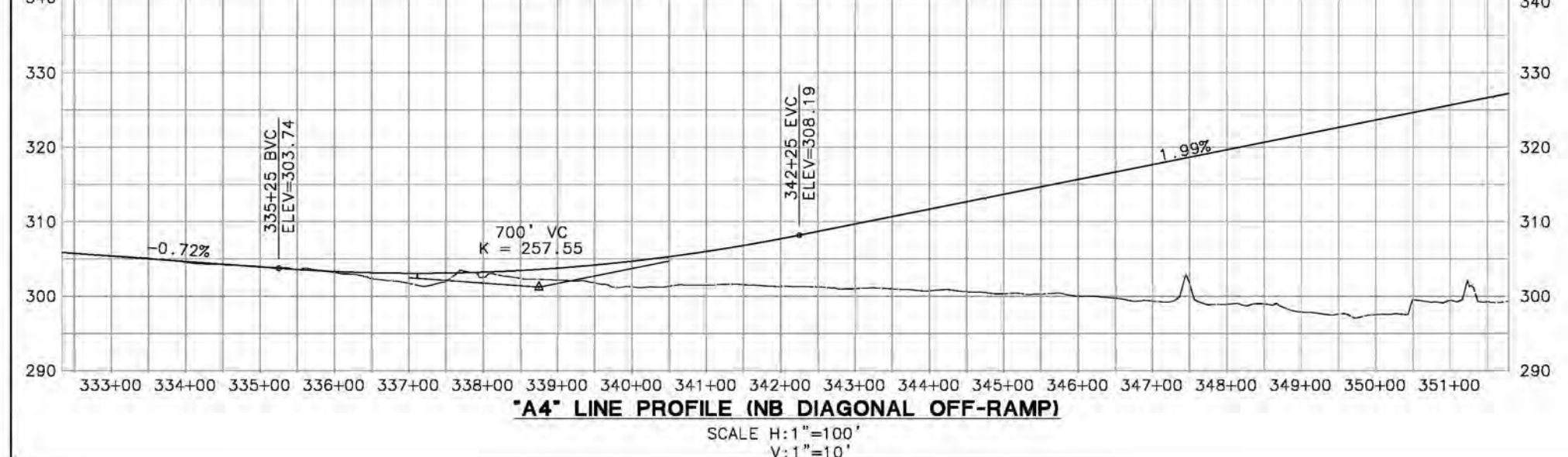
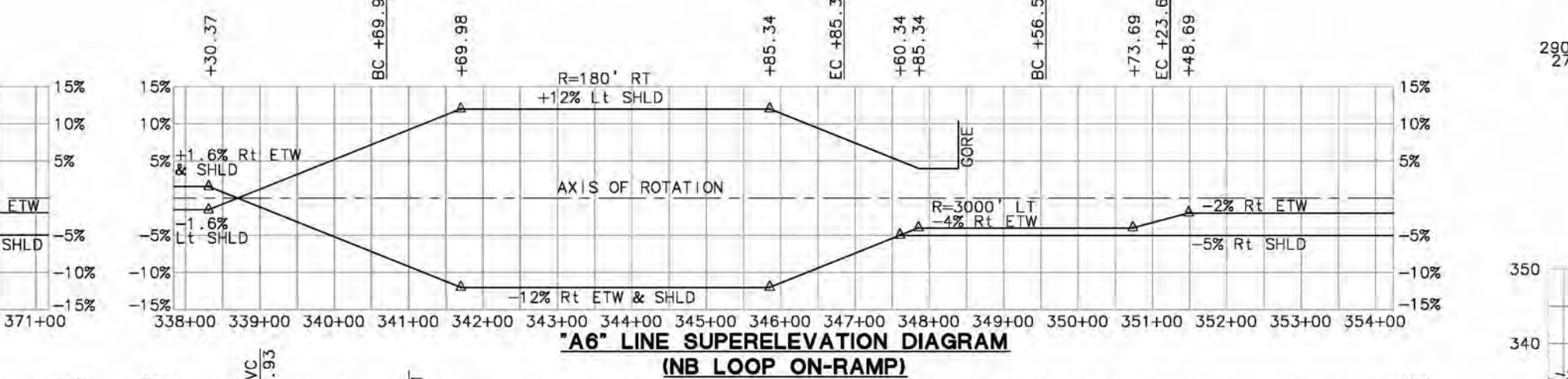
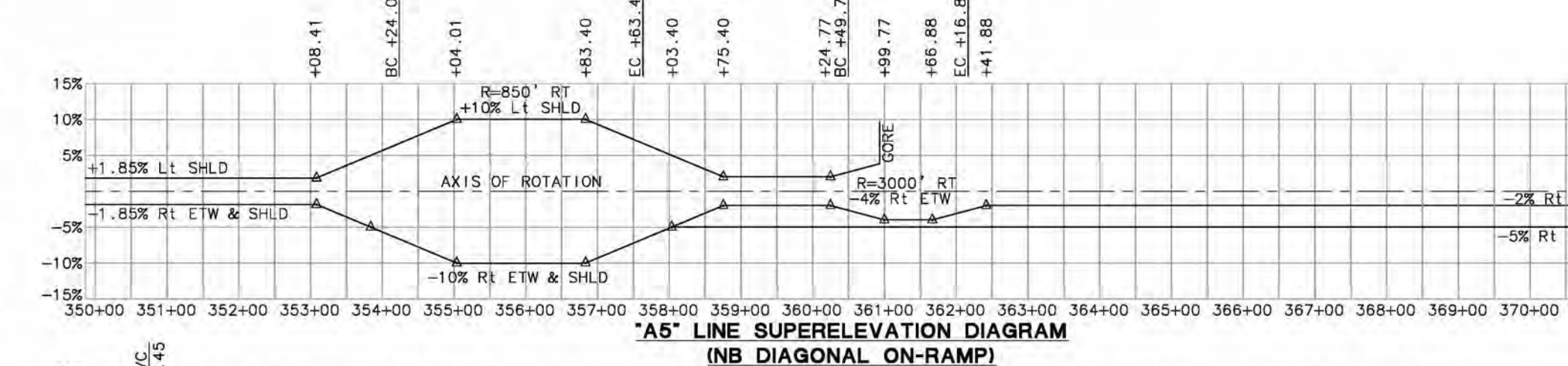
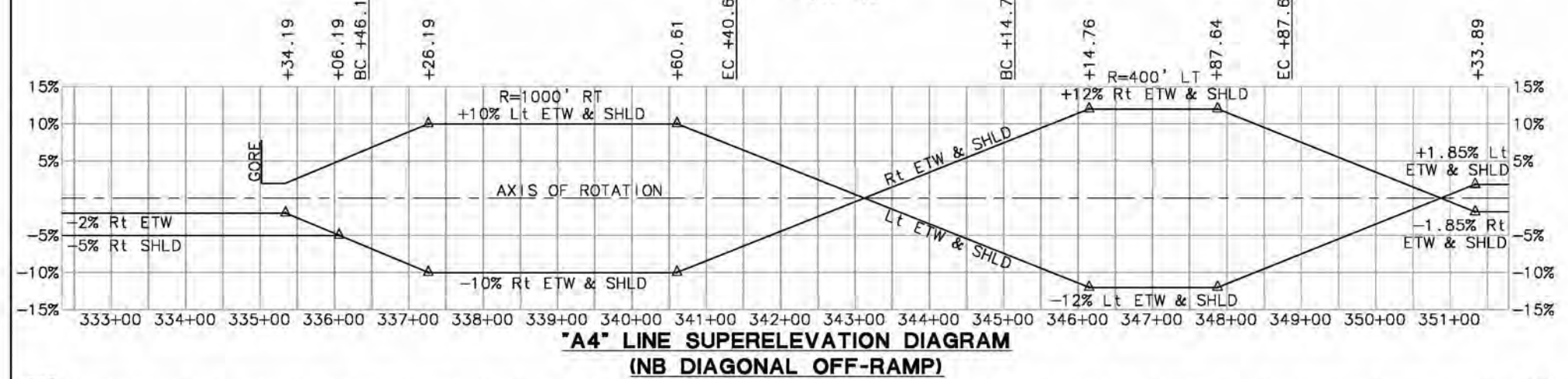
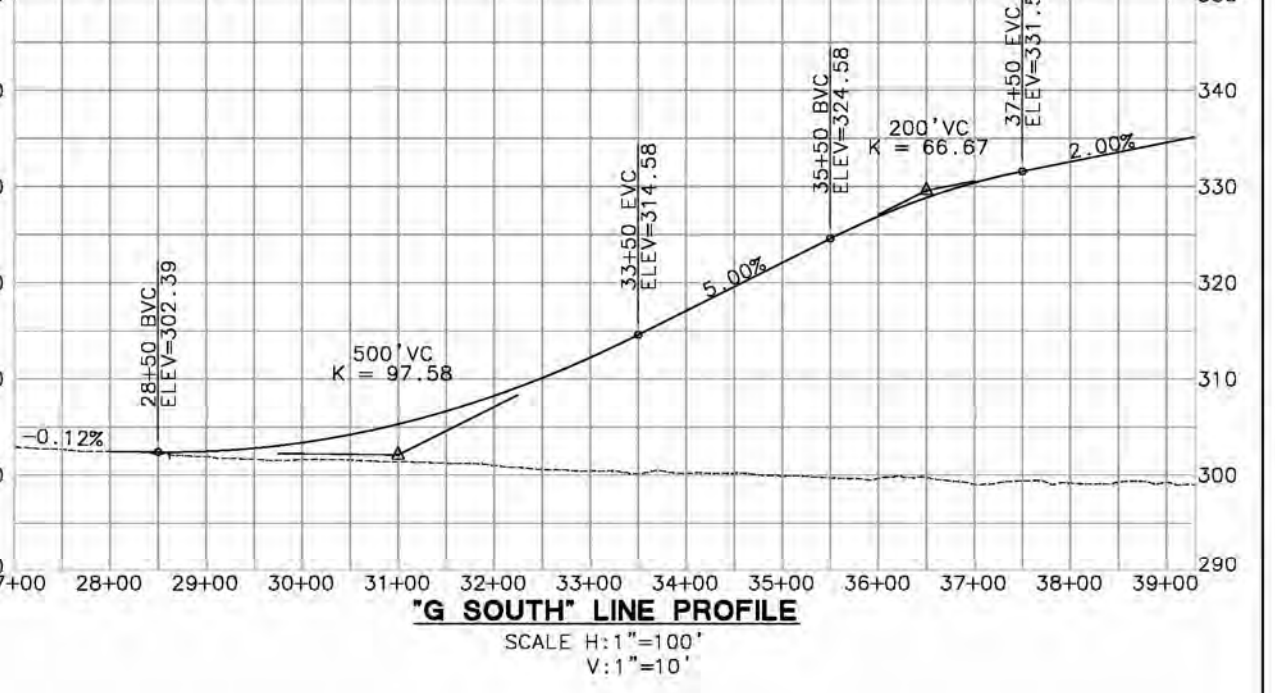
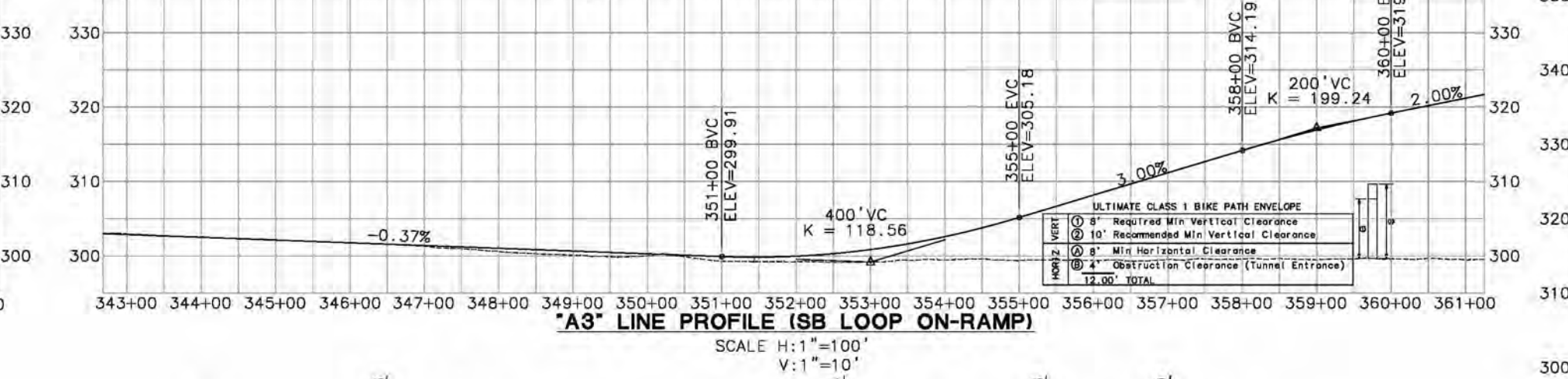
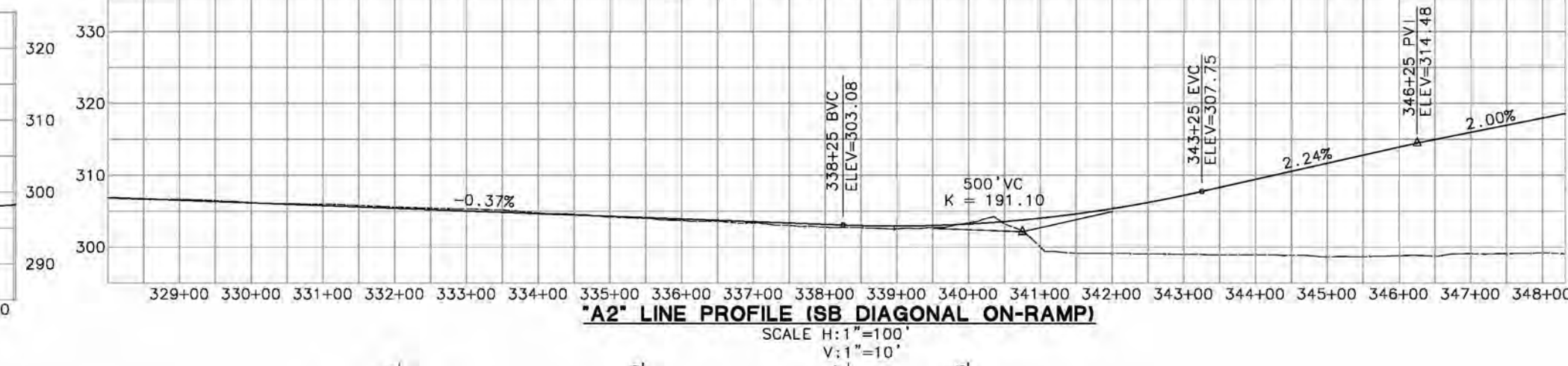
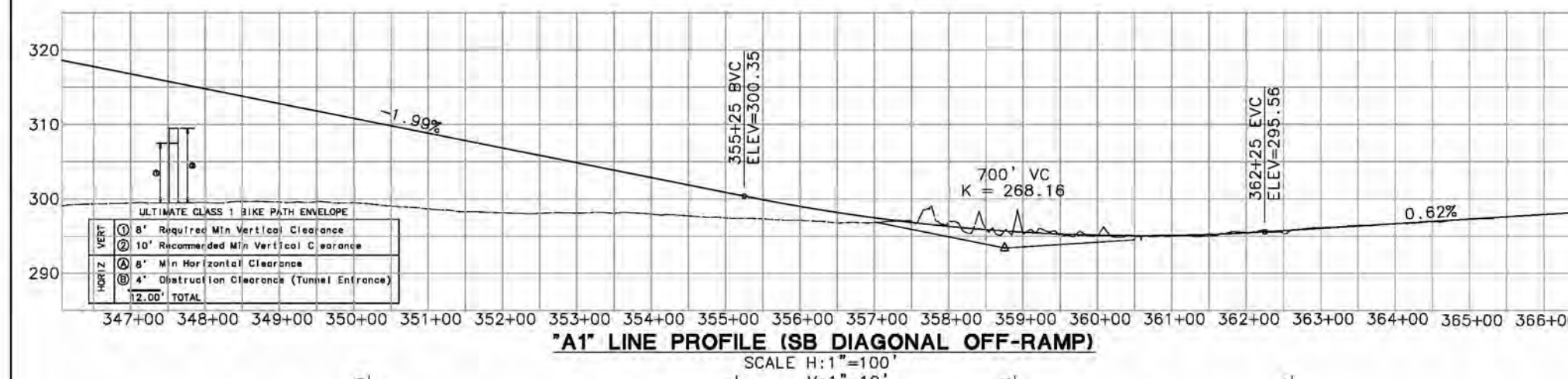
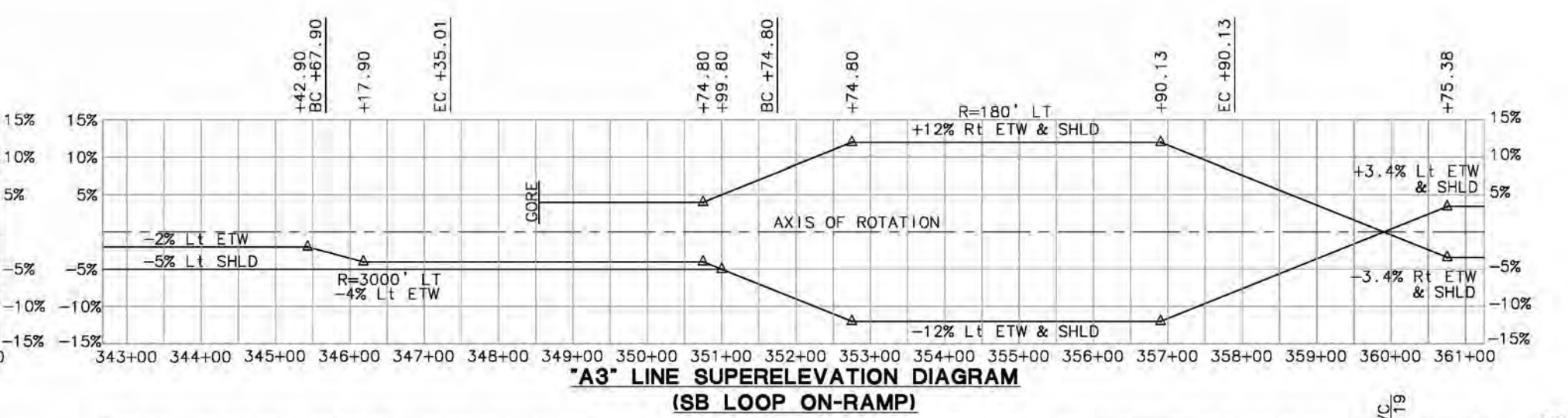
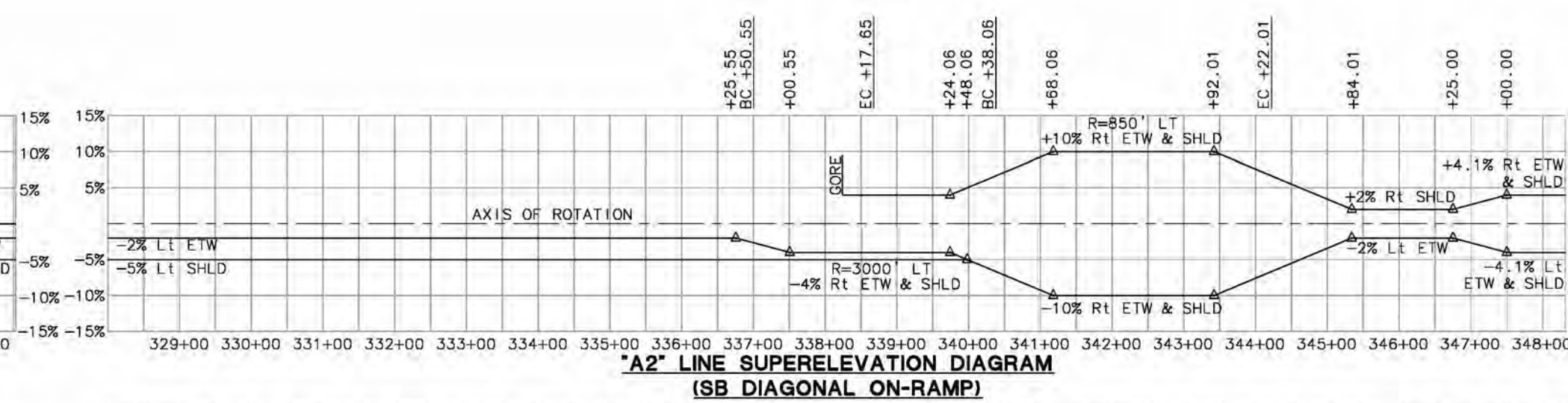
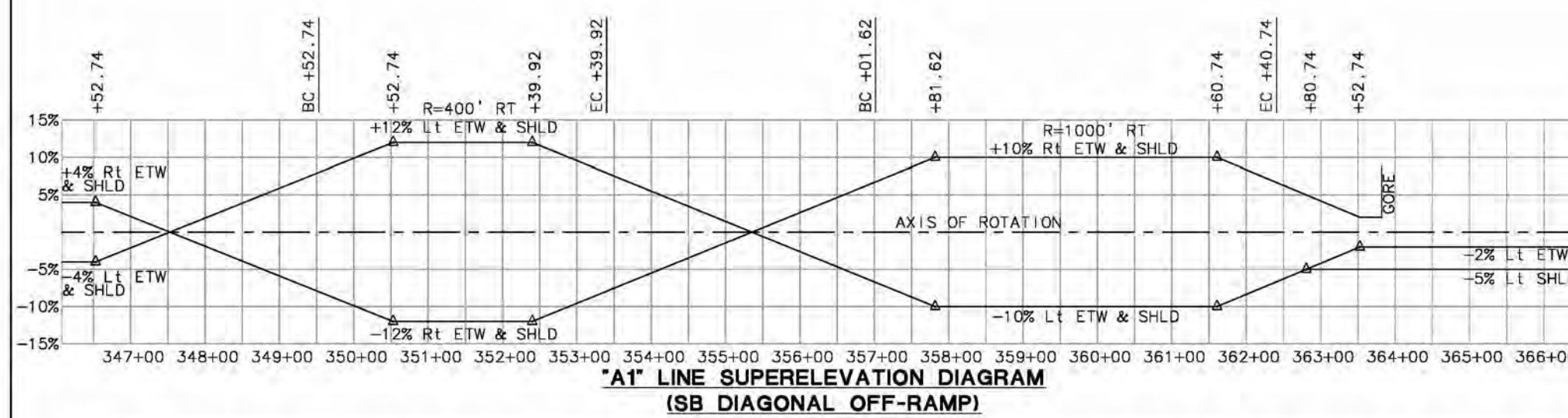
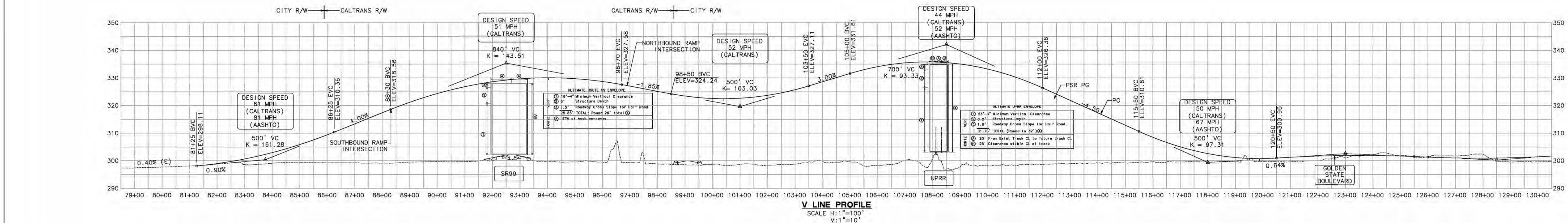
DRAFT

VETERANS BLVD/SR 99 INTERCHANGE
GEOMETRIC APPROVAL DRAWING
BASE ALTERNATIVE

MARK THOMAS & COMPANY, INC.
7571 North Remington Ave, Suite 102
Fresno, California 93711

DRAWN BY: GG/MB/KS CKD BY: RH DATE: 1/6/12 SCALE: 1"=100'	APPROVED ON: _____ BY: _____ RCE NO.: _____	JOB NO. 58-02688 FILE NO. VET_GAD.dwg	SHEET 3 OF 3
--	---	--	-----------------------

DRAFT



APPENDIX F

VETERANS EXTENSION

(Geometrics and Striping)

VETERANS BLVD/SR 99 INTERCHANGE
GEOMETRICS AND STRIPING
06-FRE-99
VETERANS EXTENSION

MARK THOMAS & COMPANY, INC.

7571 North Remington Ave, Suite 102
Fresno, California 93711

DRAWN BY: GG/MB/KS
CKD BY: RW
DATE: 1/6/12
SCALE: 1"=100'

APPROVED ON: _____
BY: _____
RCE NO.: _____

JOB NO.

58-0268B

FILE NO.

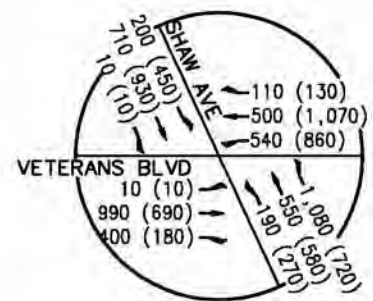
VET_GAD.dwg

SHEET

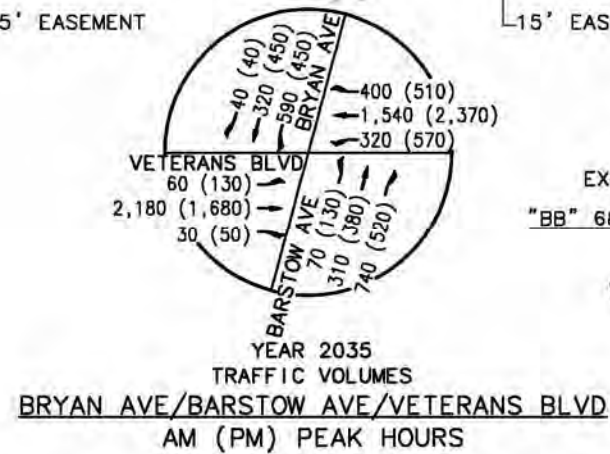
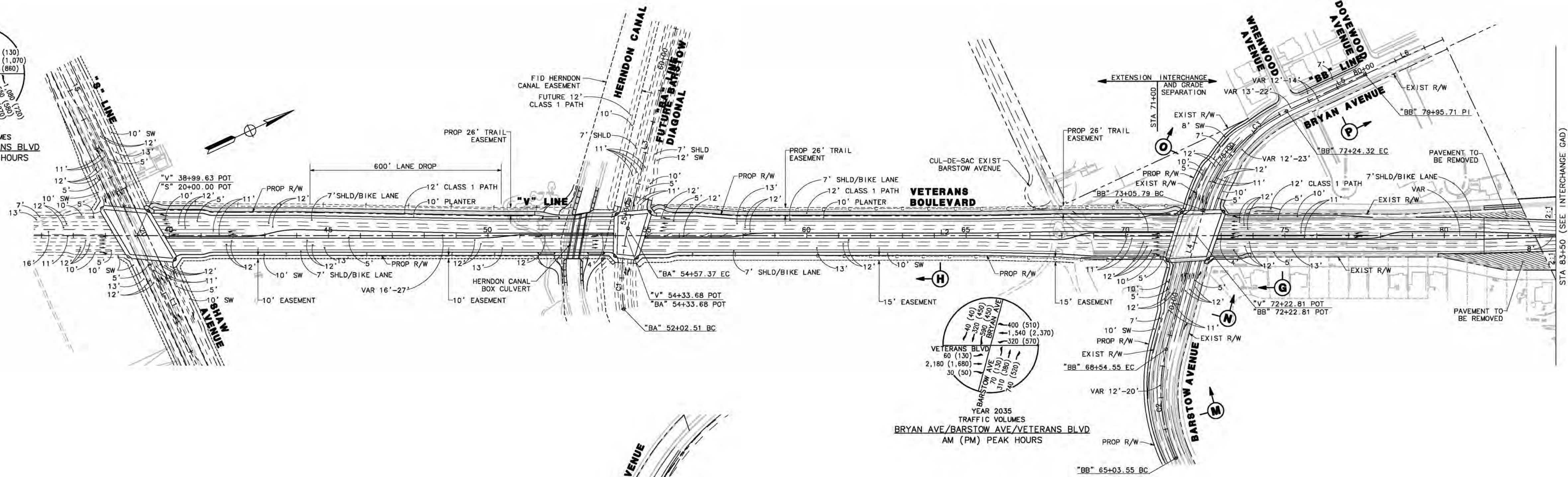
1

OF

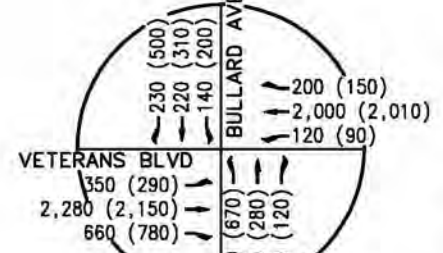
3



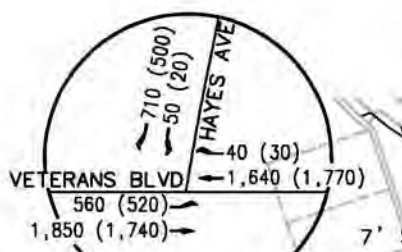
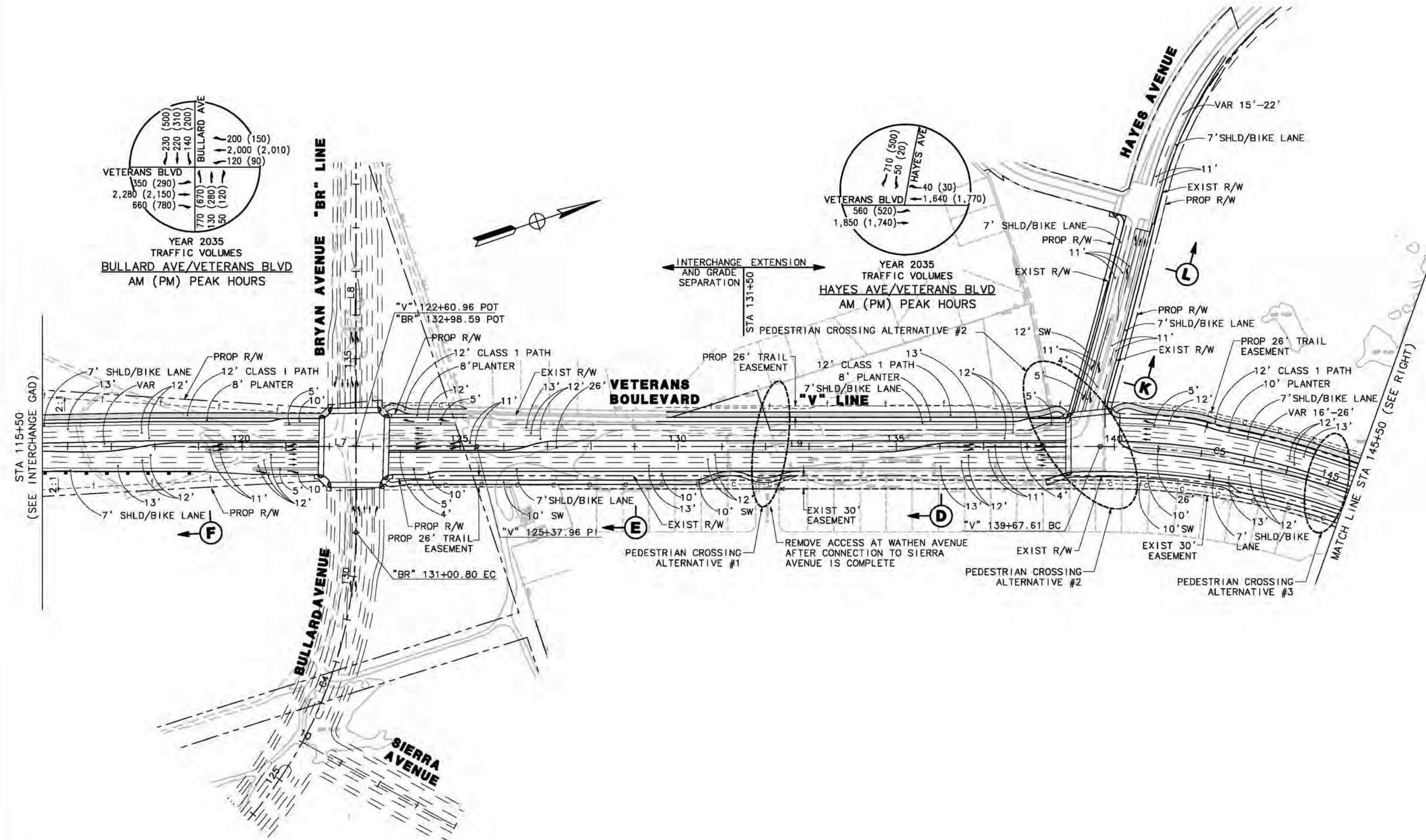
YEAR 2035
TRAFFIC VOLUMES
SHAW AVE/VETERANS BLVD
AM (PM) PEAK HOURS



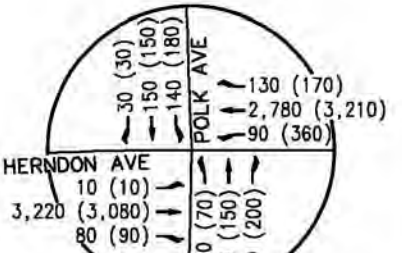
YEAR 2035
TRAFFIC VOLUMES
BRYAN AVE/BARSTOW AVE/VETERANS BLVD
AM (PM) PEAK HOURS



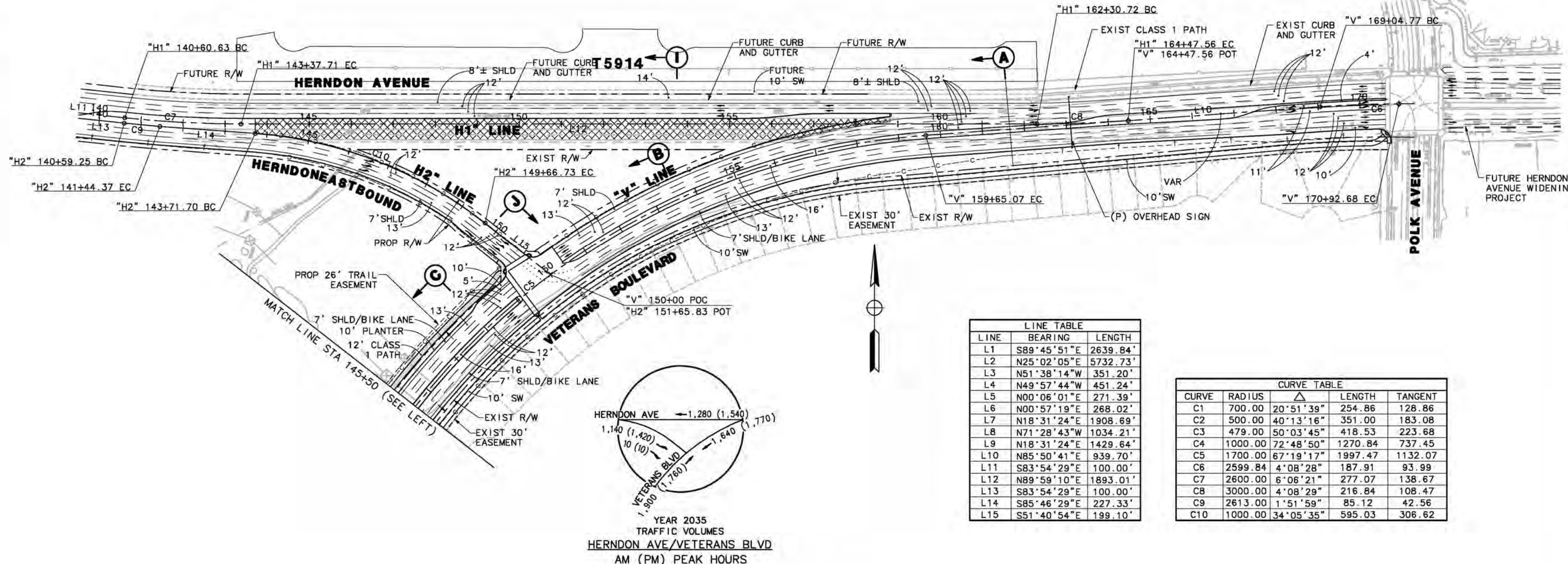
YEAR 2035
TRAFFIC VOLUMES
BULLARD AVE/VETERANS BLVD
AM (PM) PEAK HOURS



YEAR 2035
TRAFFIC VOLUMES
HAYES AVE/VETERANS BLVD
AM (PM) PEAK HOURS

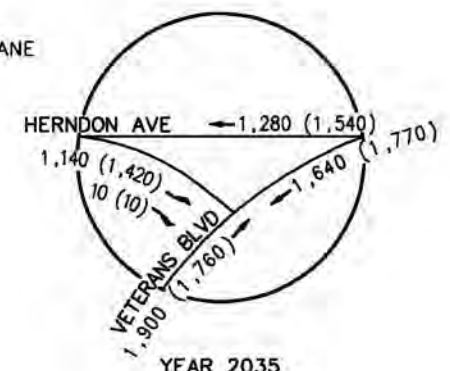


YEAR 2035
TRAFFIC VOLUMES
HERNDON AVE/POLK AVE
AM (PM) PEAK HOURS



LINE TABLE		
LINE	BEARING	LENGTH
L1	S89°45'51"E	2639.84'
L2	N25°02'05"E	5732.73'
L3	N51°38'14"W	351.20'
L4	N49°57'44"W	451.24'
L5	N00°06'01"E	271.39'
L6	N00°57'19"E	268.02'
L7	N18°31'24"E	1908.69'
L8	N71°28'43"W	1034.21'
L9	N18°31'24"E	1429.64'
L10	N85°50'41"E	939.70'
L11	S83°54'29"E	100.00'
L12	N89°59'10"E	1893.01'
L13	S83°54'29"E	100.00'
L14	S85°46'29"E	227.33'
L15	S51°40'54"E	189.10'

CURVE TABLE			
CURVE	RADIUS	LENGTH	TANGENT
C1	700.00	20°51'39"	254.86
C2	500.00	40°13'16"	351.00
C3	479.00	50°03'45"	418.53
C4	1000.00	72°48'50"	1270.84
C5	1700.00	67°19'17"	1897.47
C6	2599.84	4°08'28"	187.91
C7	2600.00	6°08'21"	277.07
C8	3000.00	4°08'29"	216.84
C9	2613.00	1°51'59"	85.12
C10	1000.00	34°05'35"	595.03



YEAR 2035
TRAFFIC VOLUMES
HERNDON AVE/VETERANS BLVD
AM (PM) PEAK HOURS

EXIST BLOCK WALL

SW

4' 5" 5' 5" 12' 12' 12' 4' 11' 11' 12' 12' 12' 5' 10' 6' ± 12'

CLASS 1 PATH

EXIST BLOCK WALL

EXIST 30' EASEMENT

7' SHLD BIKE LANE

13'

12'

26'

12'

12'

13'

7' SHLD BIKE LANE

10' R/W

12' CLASS 1 PATH

7' R/W

EXIST BLOCK WALL

100'

SECTION D-D
VETERANS Blvd
(WEST OF HAYES Ave)

SECTION C-C
VETERANS Blvd
(EAST OF HANES Ave)

EXIST 30' EASEMENT

EXIST R/W VAR 10'-18'

SHLD BIKE LANE 7'

13'

12'

12'

16'

12'

12'

13'

7'

SHLD BIKE LANE

10' R/W

EXIST ROCK WALL

EXIST 30' EASEMENT 20' -40' EXIST R/W VAR 7' SHLD/DIKE LANE 13' 12' 12' 14'-16' VAR 12' 12' 12' 12' 8' SHLD 14' FUTURE R/W 10' EASEMENT

The plan view shows a cross-section of the road layout. It includes an existing 30-foot easement on the left, followed by an existing right-of-way (R/W) with a variable width of 20 to 40 feet. A 7-foot shoulder/dike lane is shown, followed by a 13-foot lane, three 12-foot lanes, a 14 to 16-foot variable lane, two more 12-foot lanes, another 12-foot lane, an 8-foot shoulder, a 14-foot future right-of-way, and a 10-foot easement on the right. Arrows indicate the direction of traffic flow.

SECTION A-A
HERNDON Ave

The diagram shows a 5-bay portal frame structure. The horizontal dimensions are: 10' (left overhang), 12' (bay 1), 12' (bay 2), 12' (bay 3), 12' (bay 4), and 10' (right overhang). The total length is 68'. The vertical height of the frame is 12'. The structure is supported by fixed supports at the base. A uniformly distributed load of 1.5 k/ft is applied horizontally to the right on all beams. The frame is labeled 'R/W' at both ends.

Diagram illustrating the proposed improvements on the east side of the intersection. The diagram shows a cross-section of the road with various lanes and dimensions. From left to right, the sections are: "REMOVE EB LANES" (indicated by a dashed line and a cross-hatched area below), three 12' lanes each with an upward arrow, an 8' "SHLD" (shoulder) lane, a 14' "R/W" (right-of-way) lane, and a 10' "EASEMENT" lane. A small figure of a person is shown in the easement area. A dashed line indicates the "IMPROVEMENTS ON" the east side.

SECTION 1-I
HERNDON Ave

[illegible]

Plan view of the proposed driveway. The driveway is 3' wide. It features a series of vertical lines indicating dimensions: 10' SW, 7', 12', 12', VAR 12'-20', 12', 12', VAR 7'-10', 5.5', 4', 15'±. An 'EXIST BLOCK WALL' is shown on the right side. A dashed line indicates a boundary or path. A small structure is shown at the bottom left corner.

SECTION M-M
BARSTOW Ave

DRAWN BY: <u>GG/MB/KS</u> CKD BY: <u>RH</u> DATE: <u>1/6/12</u> SCALE: <u>1"=100'</u>	APPROVED ON: _____ BY: _____ RCE NO.: _____	JOB NO. 58-0268B	SHEET 2
		FILE NO. VET_GAD.dwg	OF 3

DRAWN BY: <u>GG/MB/KS</u> CKD BY: <u>RH</u> DATE: <u>1/6/12</u> SCALE: <u>1"=100'</u>	APPROVED ON: _____ BY: _____ RCE NO.: _____	JOB NO. 58-0268B	SHEET 2
		FILE NO. VET_GAD.dwg	OF 3

VETERANS BLVD/SR 99 INTERCHANGE
GEOMETRICS AND STRIPING
VETERANS EXTENSION

06-FRE-99

MARK THOMAS & COMPANY, INC.
7571 North Remington Ave, Suite 102
Fresno, California 93711

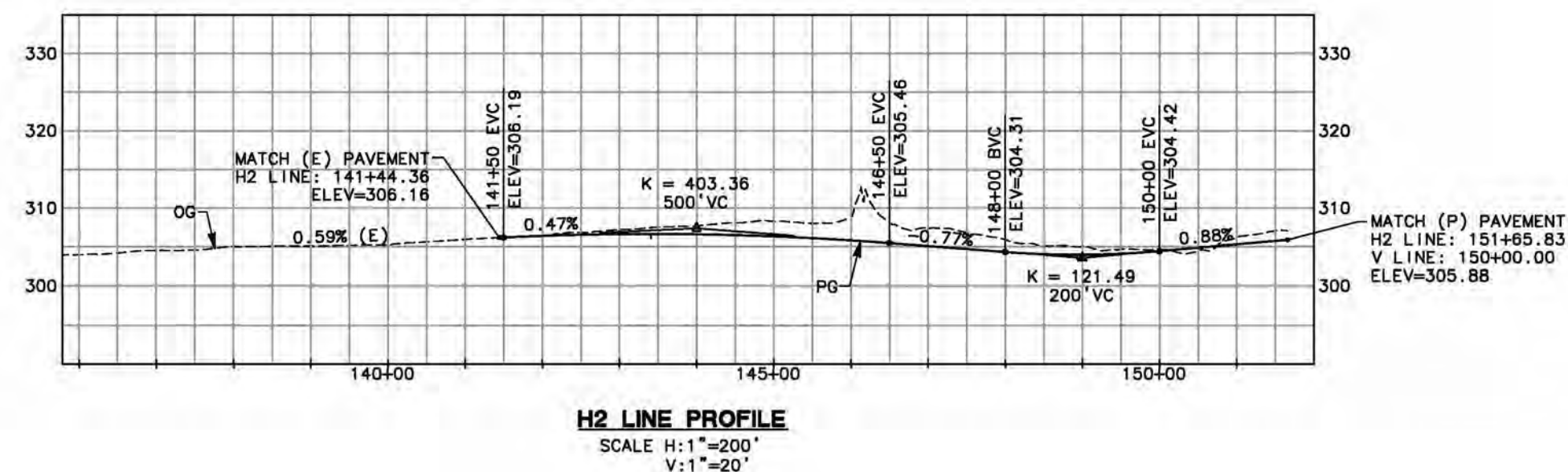
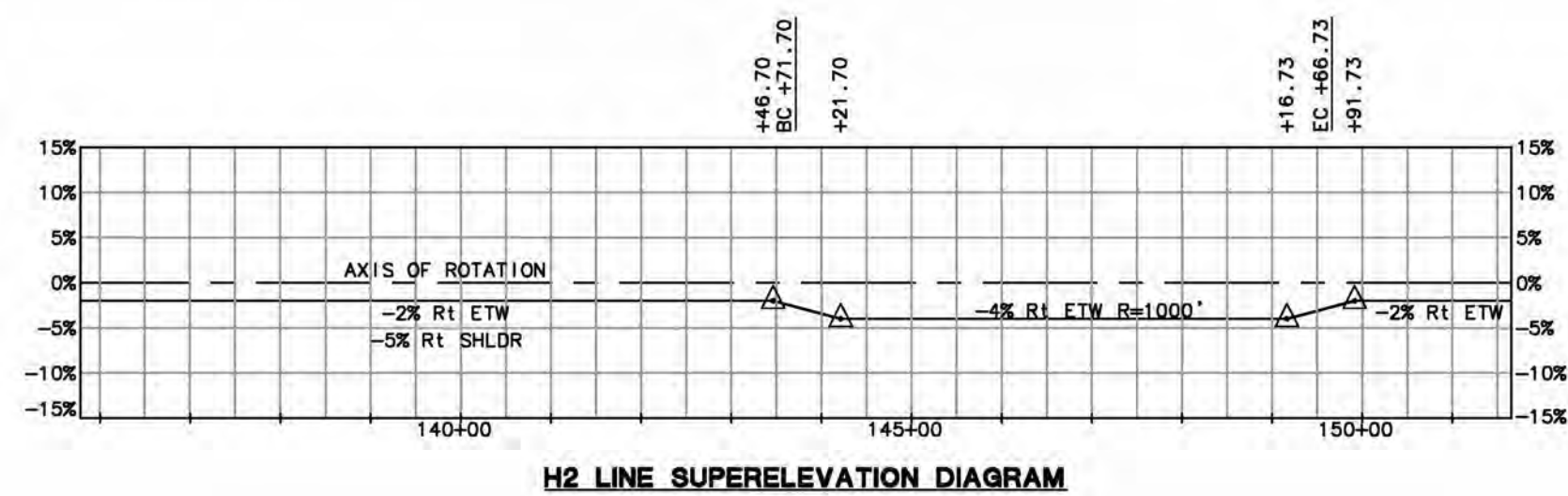
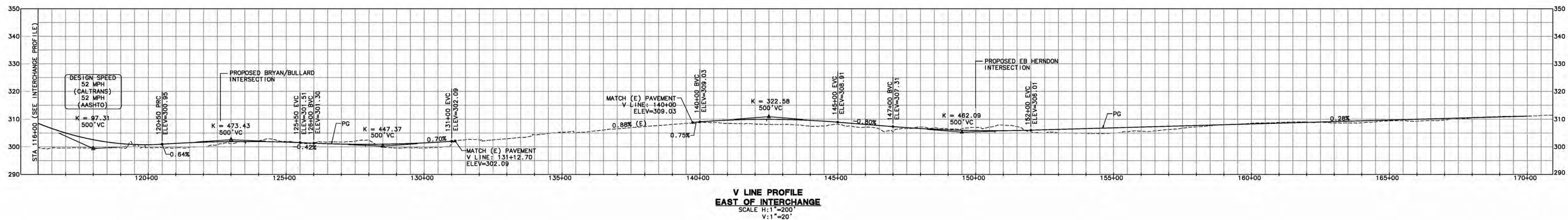
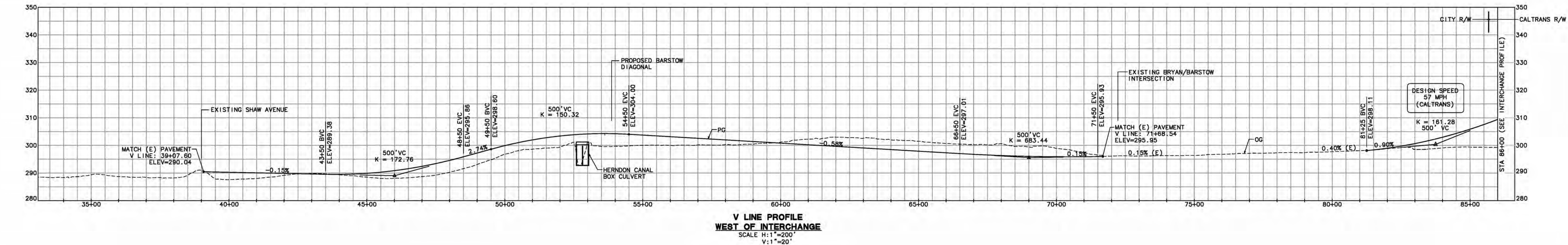
DRAWN BY:GG/MB/KS
CKD BY: RH
DATE: 1/6/12
SCALE: 1"=100'

APPROVED ON: _____
BY: _____
RCE NO.: _____

JOB NO.
58-0268B

FILE NO.
VET_GAD.dwg

SHEET
3
OF
3

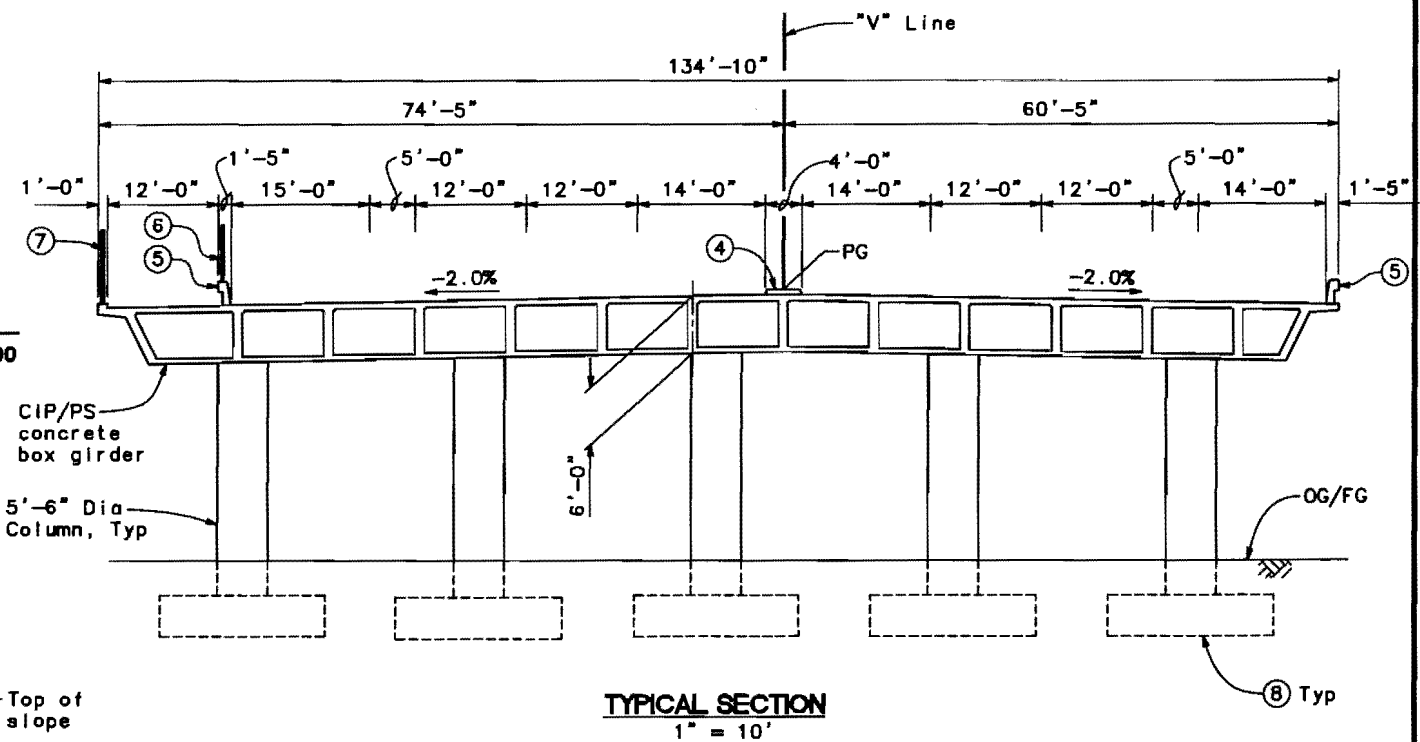
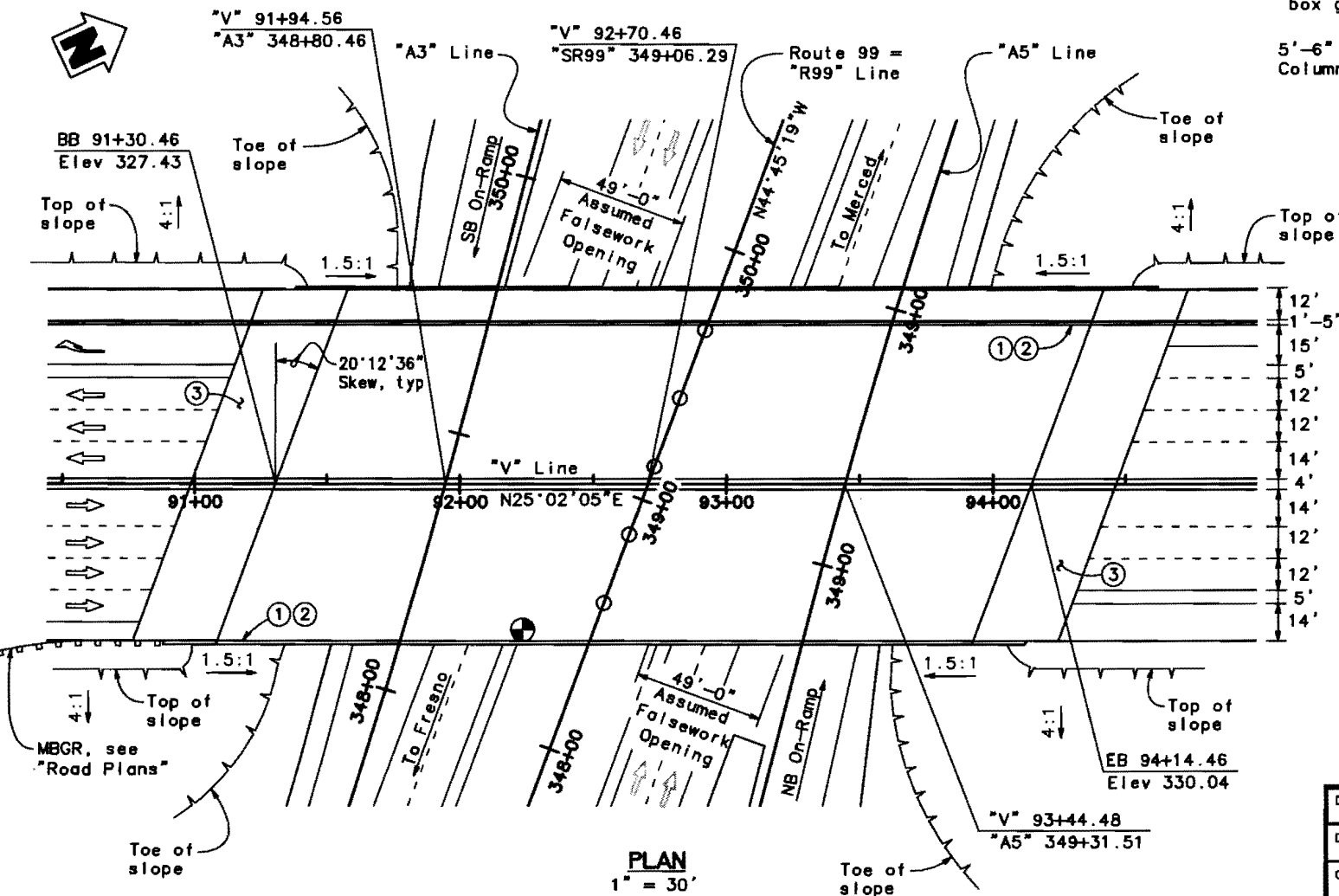
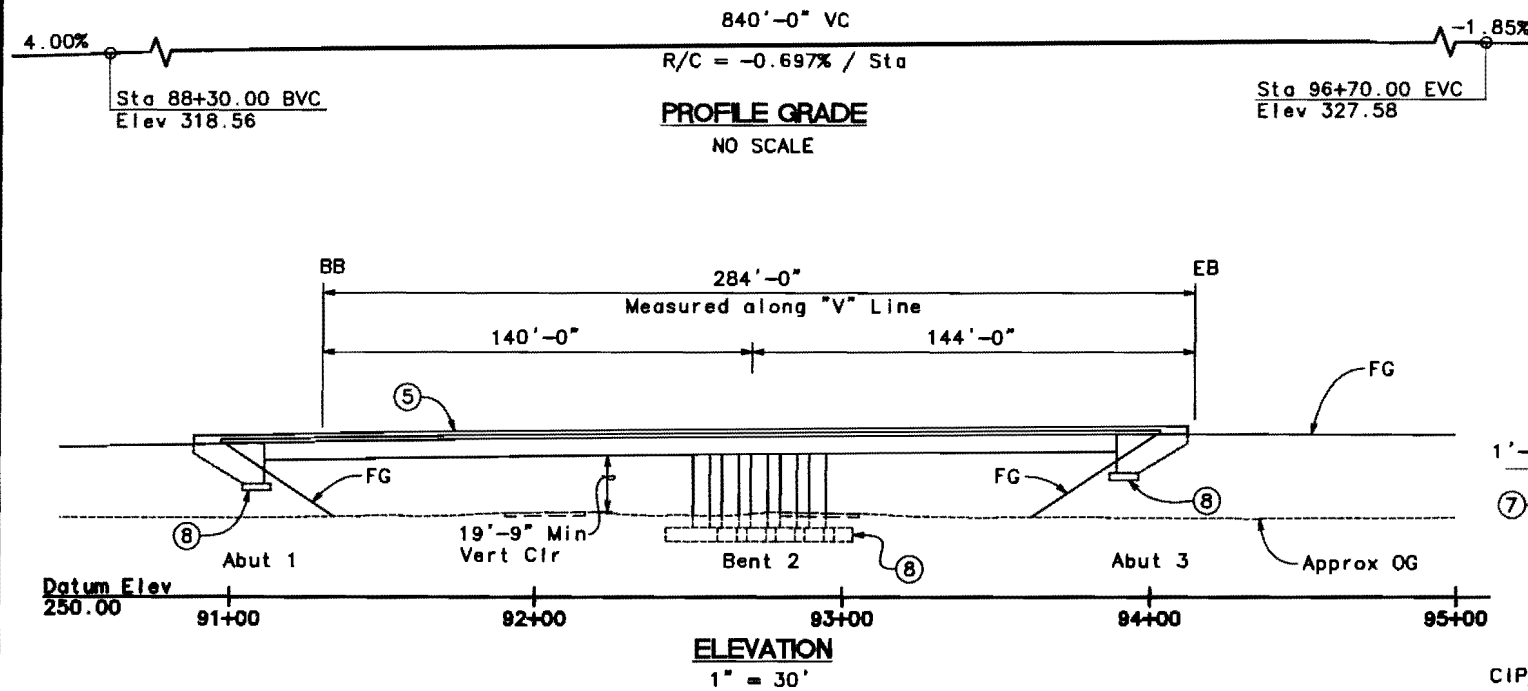


APPENDIX G

ADVANCED PLANNING STUDIES

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
06	FRE	99	

MARK THOMAS & COMPANY, INC.
7571 N. REMINGTON AVE, STE 102
FRESNO, CA 93711



NOTES

- Paint "VETERANS BOULEVARD OC"
- Paint "BR. NO.25-XXXX"
- Structure Approach Slab Type N(30S)
- Raised Median
- Concrete Barrier (Type 732)
- Metal Railing
- Bicycle Railing
- Assumed Spread Footing
- Indicates Point of Minimum Vertical Clearance

Date of Estimate	=	November 2010
Structure Depth	=	6'-0"
Length	=	284'-0"
Width	=	134'-10"
Area	=	38,293 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$172/SF
Total Cost	=	\$6,586,000

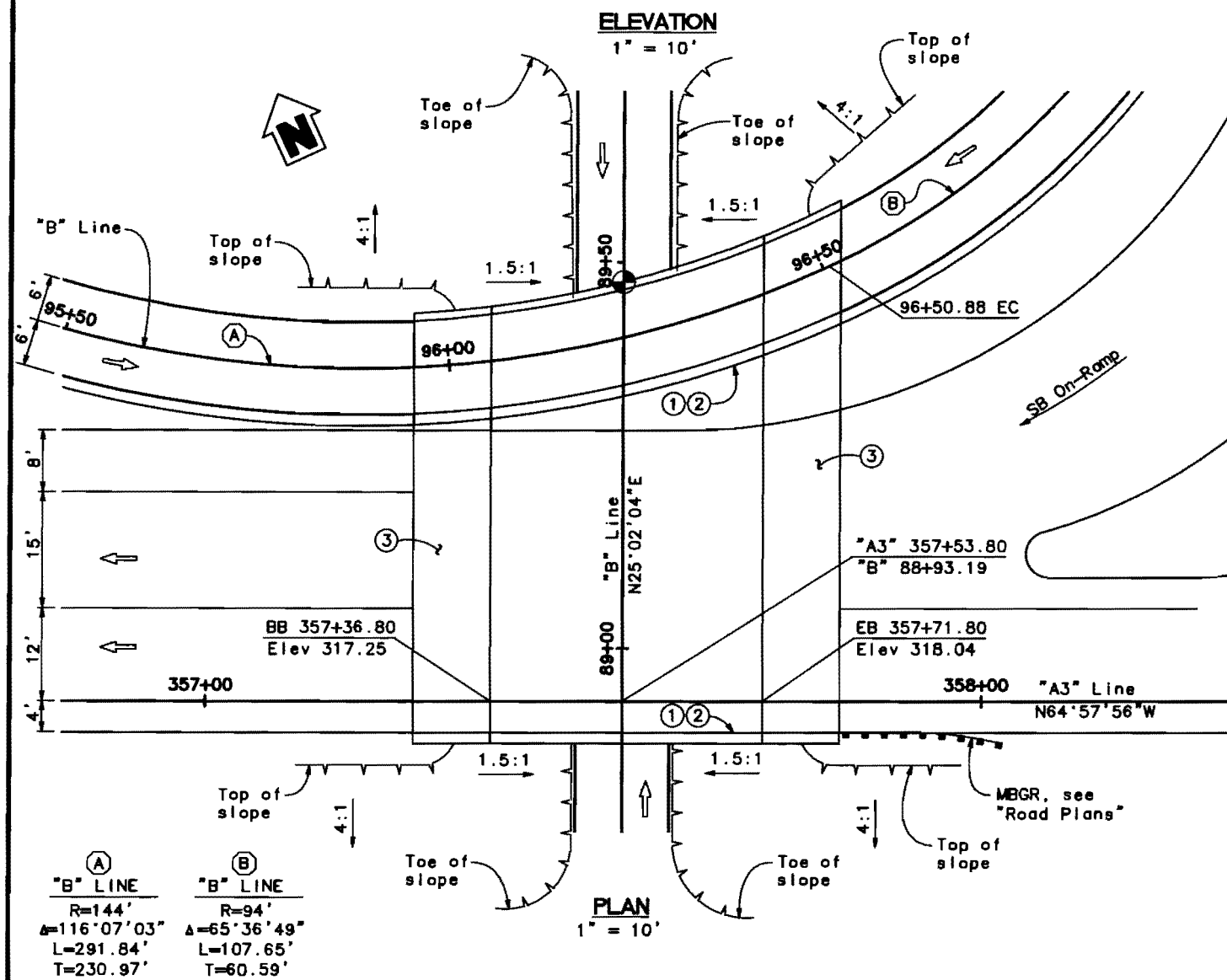
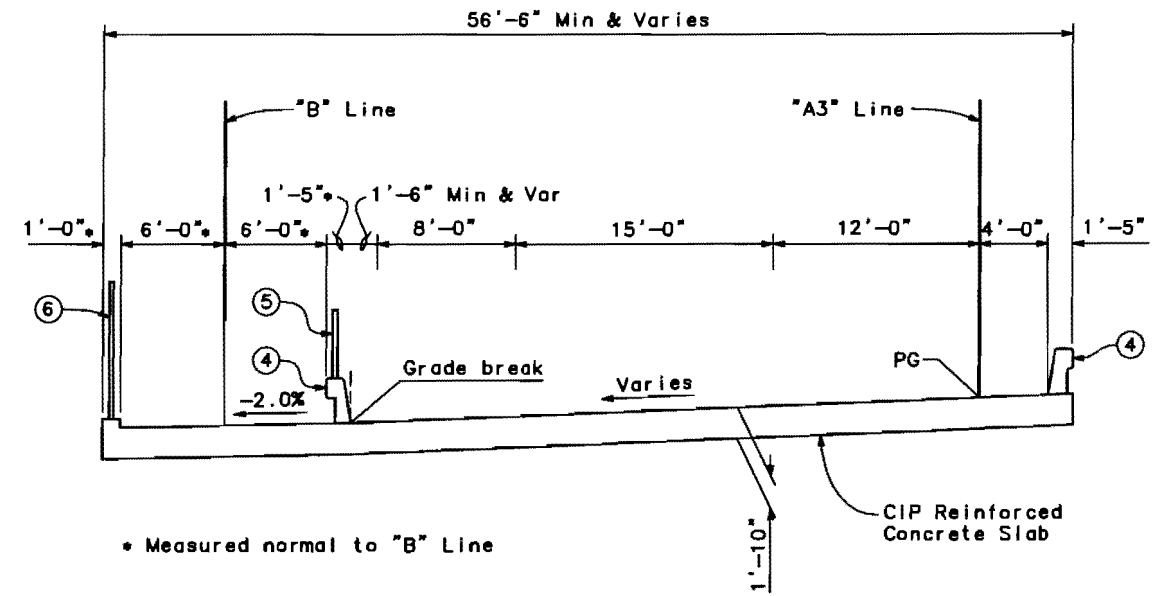
DESIGNED BY	S. MICHALSKI	DATE	11-15-10
DRAWN BY	S. MICHALSKI	DATE	11-15-10
CHECKED BY	L. SCHREY	DATE	
APPROVED	<i>John S. S. S.</i>	DATE	2/25/11

E. NORIEGA
PROJECT ENGINEER

PLANNING STUDY

VETERANS BLVD OC

BRIDGE NO. 25-XXXX	CU
SCALE: AS NOTED	EA



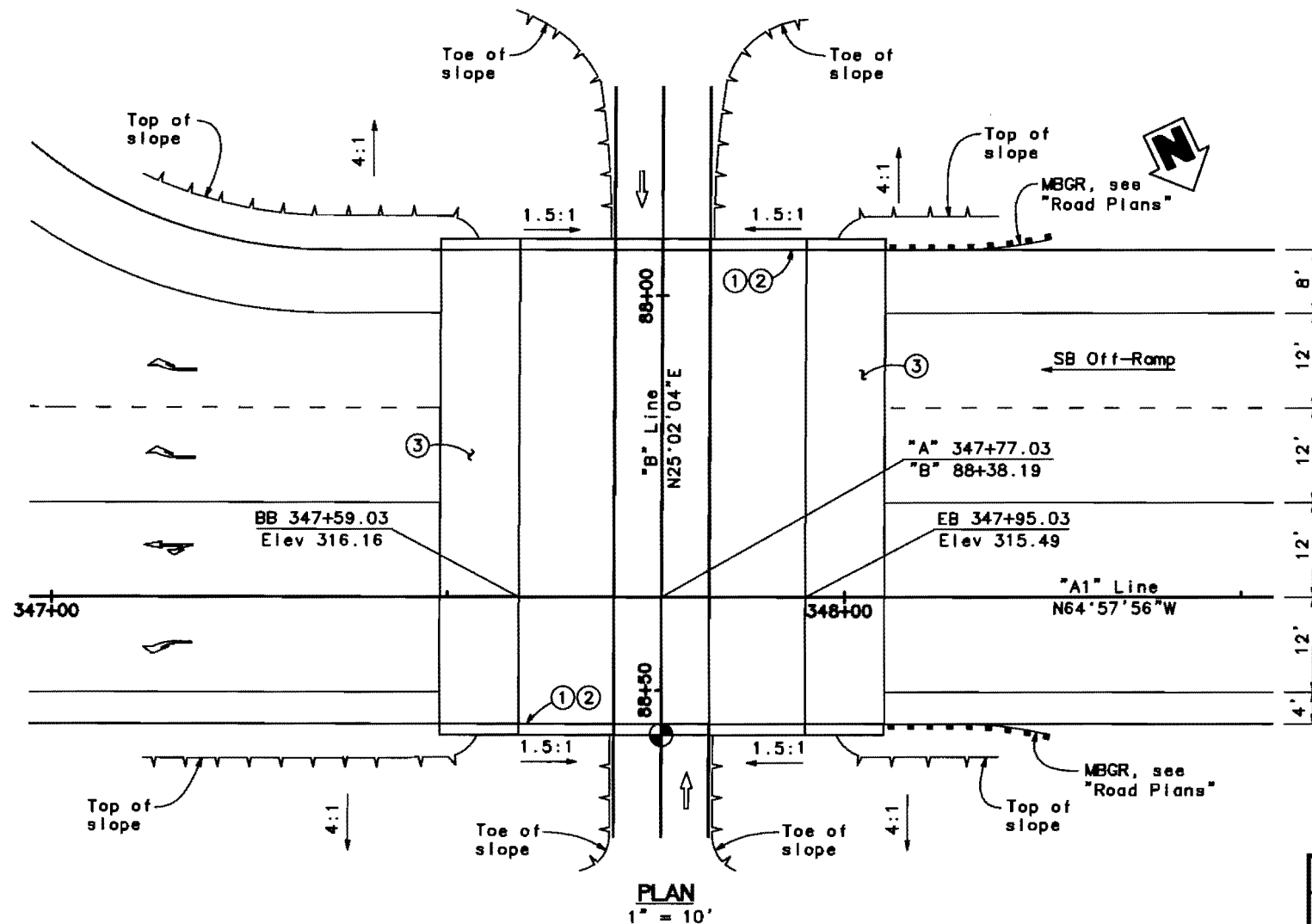
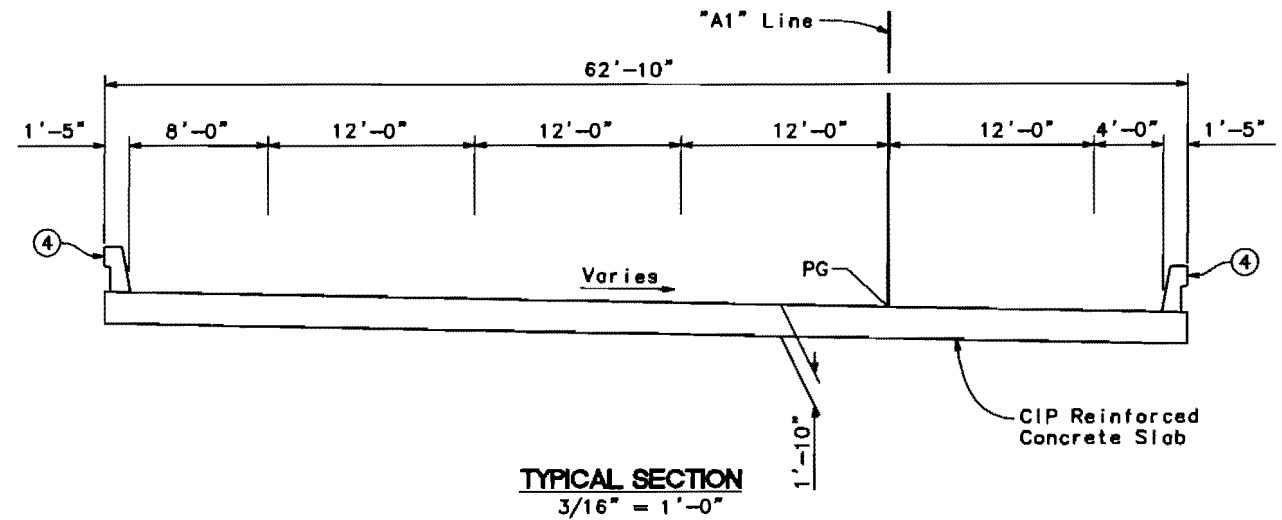
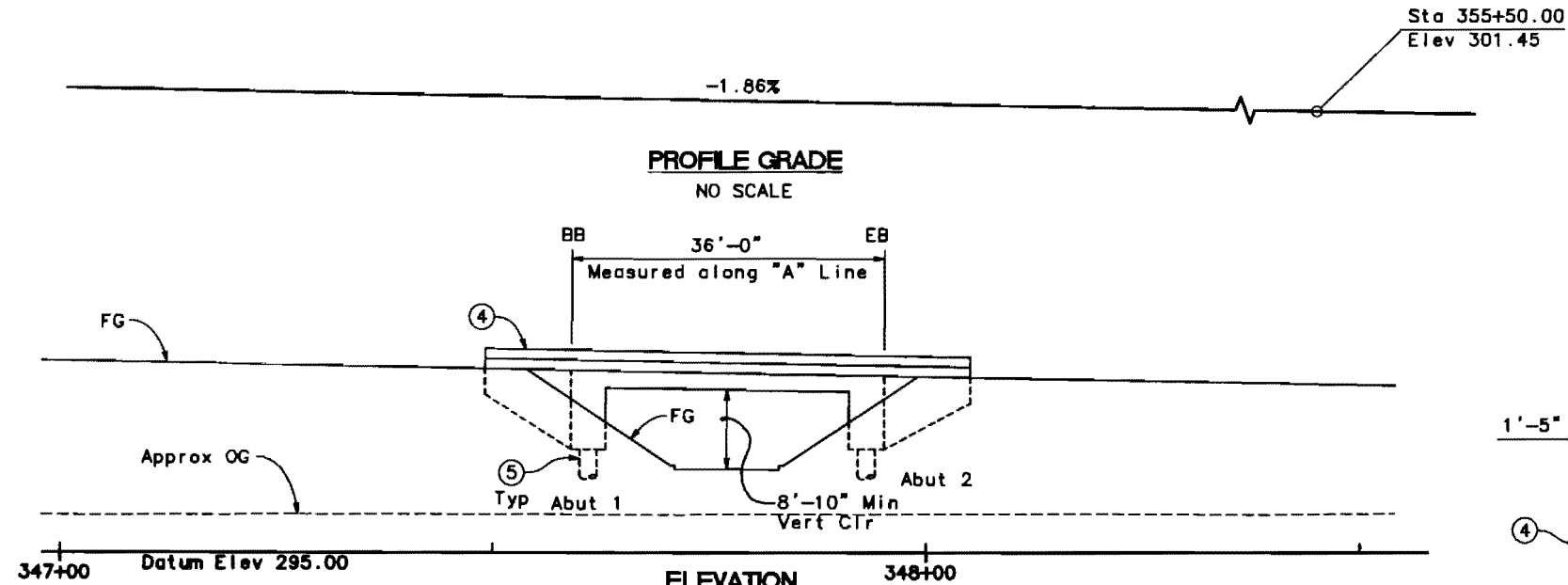
- ### NOTES
- ① Paint "SB ON-RAMP PEDESTRIAN UC"
 - ② Paint "BR. NO.25-XXXX"
 - ③ Structure Approach Slab Type EQ(10)
 - ④ Concrete Barrier (Type 732)
 - ⑤ Metal Railing
 - ⑥ Bicycle Railing
 - ⑦ Assumed CIDH Pile Foundation
 - ⬤ Indicates Point of Minimum Vertical Clearance

Date of Estimate	=	<u>November 2010</u>
Structure Depth	=	<u>1'-10"</u>
Length	=	<u>35'-0"</u>
Width	=	<u>56'-6" Min & Var</u>
Area	=	<u>2,109 SF</u>
Cost/SF including 10% Mobilization & 25% Contingency	=	<u>\$274/SF</u>
Total Cost	=	<u>\$579,000</u>

DESIGNED BY	S. MICHALSKI	DATE	11-15-10	E. NORIEGA PROJECT ENGINEER	PLANNING STUDY	
DRAWN BY	S. MICHALSKI	DATE	11-15-10		SB ON-RAMP PEDESTRIAN UC	
CHECKED BY	L. SCHREY	DATE			BRIDGE NO. 25-XXXX	CU
APPROVED	<i>[Signature]</i>	DATE	2/25/11		SCALE: AS NOTED	EA
FILE REQUEST						

COMPLETION TIME
DATE COMPLETED
TIME COMPLETED

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
06	FRE	99	
MARK THOMAS & COMPANY, INC. 7571 N. REMINGTON AVE, STE 102 FRESNO, CA 93711			



NOTES

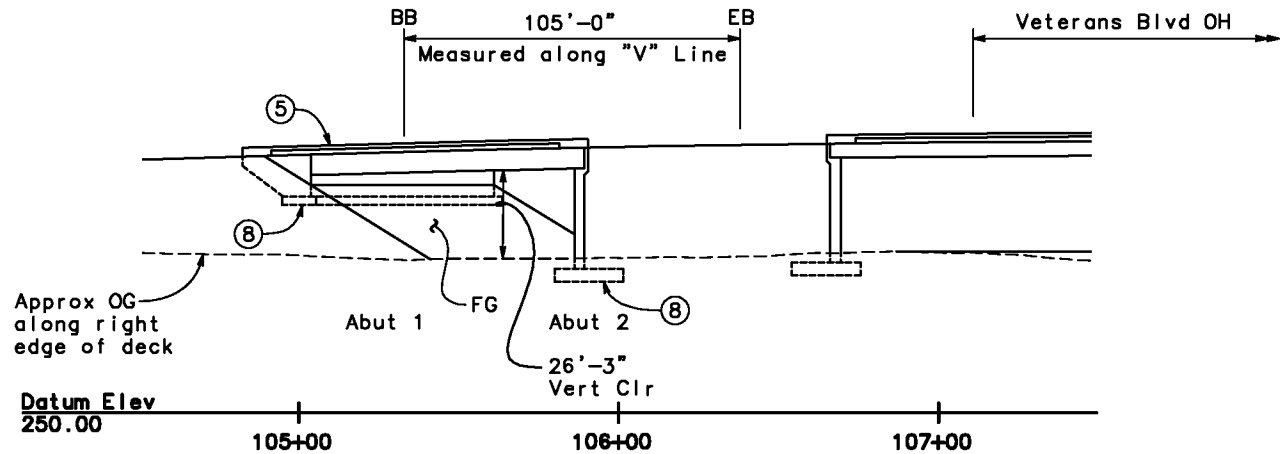
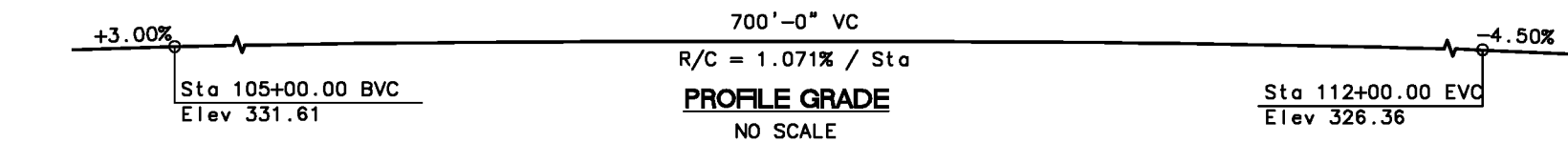
- ① Paint "SB OFF-RAMP PEDESTRIAN UC"
- ② Paint "BR. NO.25-XXXX"
- ③ Structure Approach Slab Type EQ(10)
- ④ Concrete Barrier (Type 732)
- ⑤ Assumed CIDH Pile Foundation
- Indicates Point of Minimum Vertical Clearance

Date of Estimate	=	November 2010
Structure Depth	=	1'-10"
Length	=	36'-0"
Width	=	62'-10"
Area	=	2,262 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$248/SF
Total Cost	=	\$562,000

DESIGNED BY	S. MICHALSKI	DATE	11-15-10
DRAWN BY	S. MICHALSKI	DATE	11-15-10
CHECKED BY	L. SCHREY	DATE	
APPROVED	<i>John J. Jaramila</i>	DATE	2/25/11

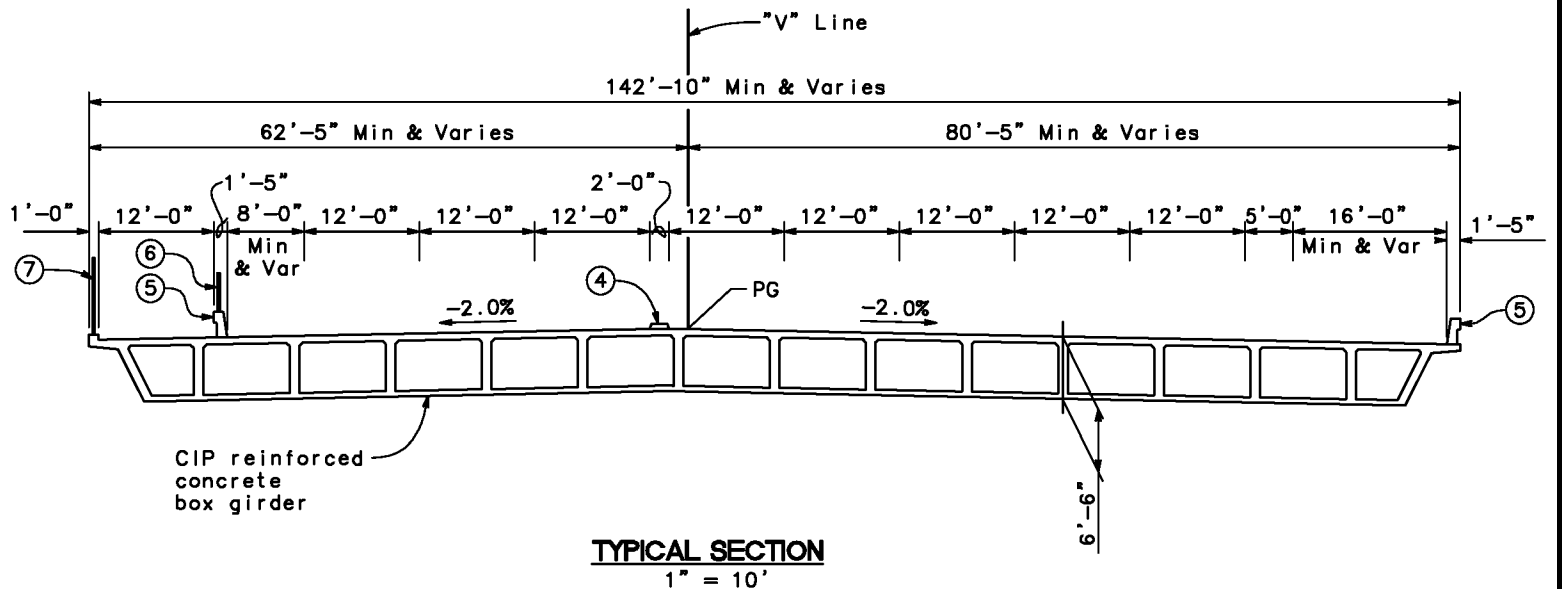
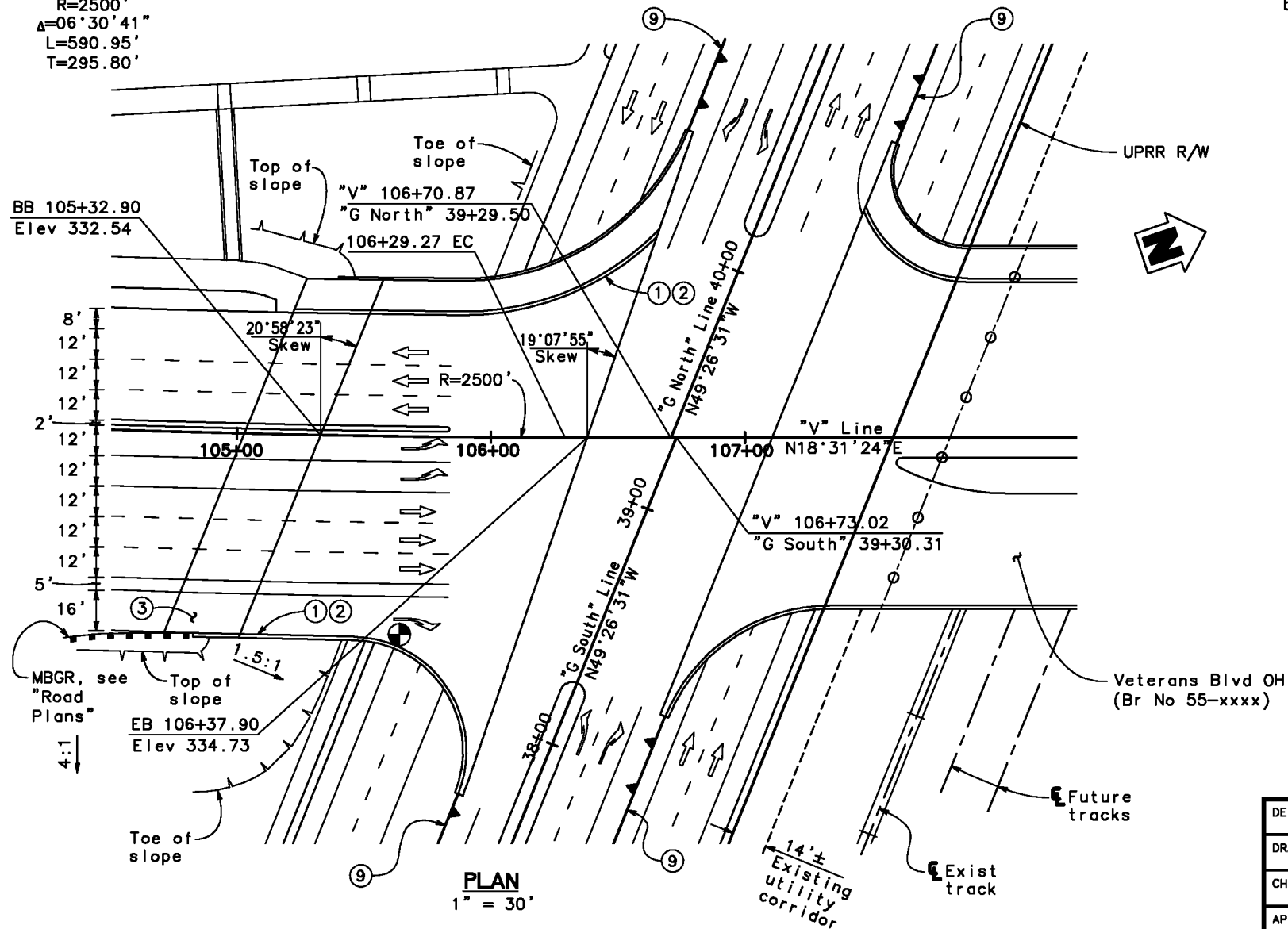
PLANNING STUDY	
SB OFF-RAMP PEDESTRIAN UC	
BRIDGE NO. 25-XXXX	CU
SCALE: AS NOTED	EA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
06	FRE	99	
MARK THOMAS & COMPANY, INC. 7571 N. REMINGTON AVE, STE 102 FRESNO, CA 93711			



ELEVATION
1" = 30'

"V" LINE
R=2500'
Δ=06°30'41"
L=590.95'
T=295.80'



NOTES

- ① Paint "GOLDEN STATE BLVD OC"
- ② Paint "BR. NO.25-XXXX"
- ③ Structure Approach Slab Type N(30S)
- ④ Raised Median
- ⑤ Concrete Barrier (Type 732)
- ⑥ Metal Railing
- ⑦ Bicycle Railing
- ⑧ Assumed Spread Footing
- ⑨ MSE Retaining Wall, see "Road Plans"
- ⊙ Indicates Point of Minimum Vertical Clearance

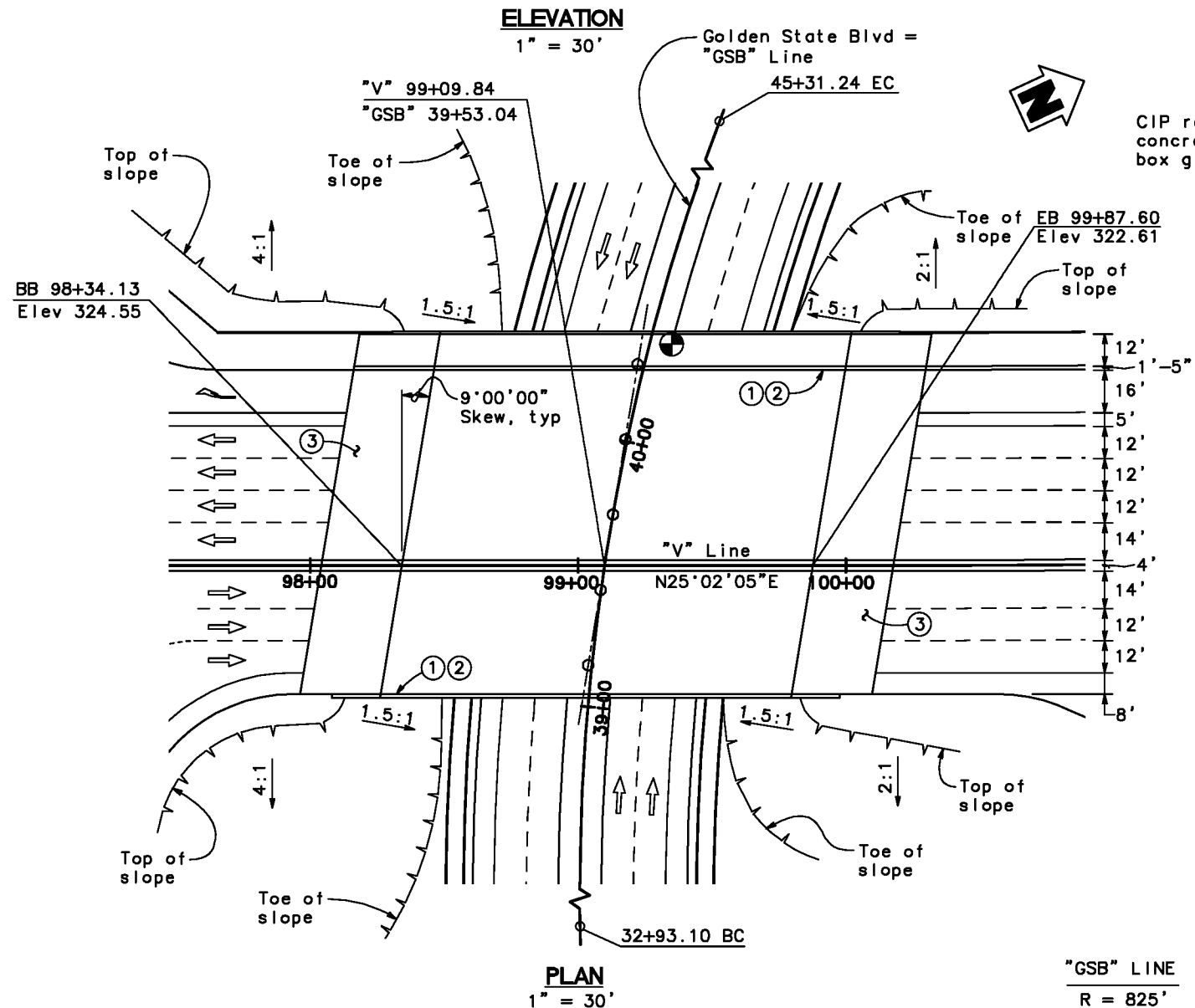
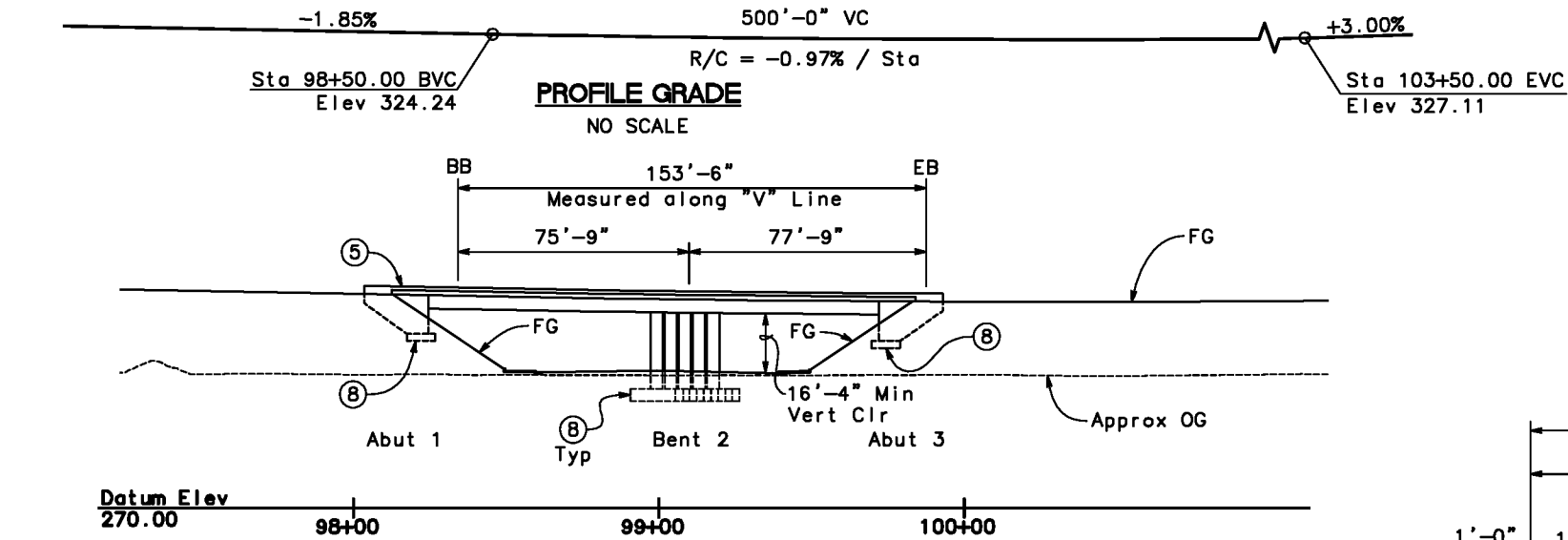
Date of Estimate	=	November 2010
Structure Depth	=	6'-6"
Length	=	105'-0"
Width	=	142'-10" Min & Var
Area	=	17,127 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$332/SF
Total Cost	=	\$5,691,000

DESIGNED BY	K. MICHALSKI	DATE	11-09-10
DRAWN BY	K. MICHALSKI	DATE	11-09-10
CHECKED BY	L. SCHREY	DATE	
APPROVED		DATE	

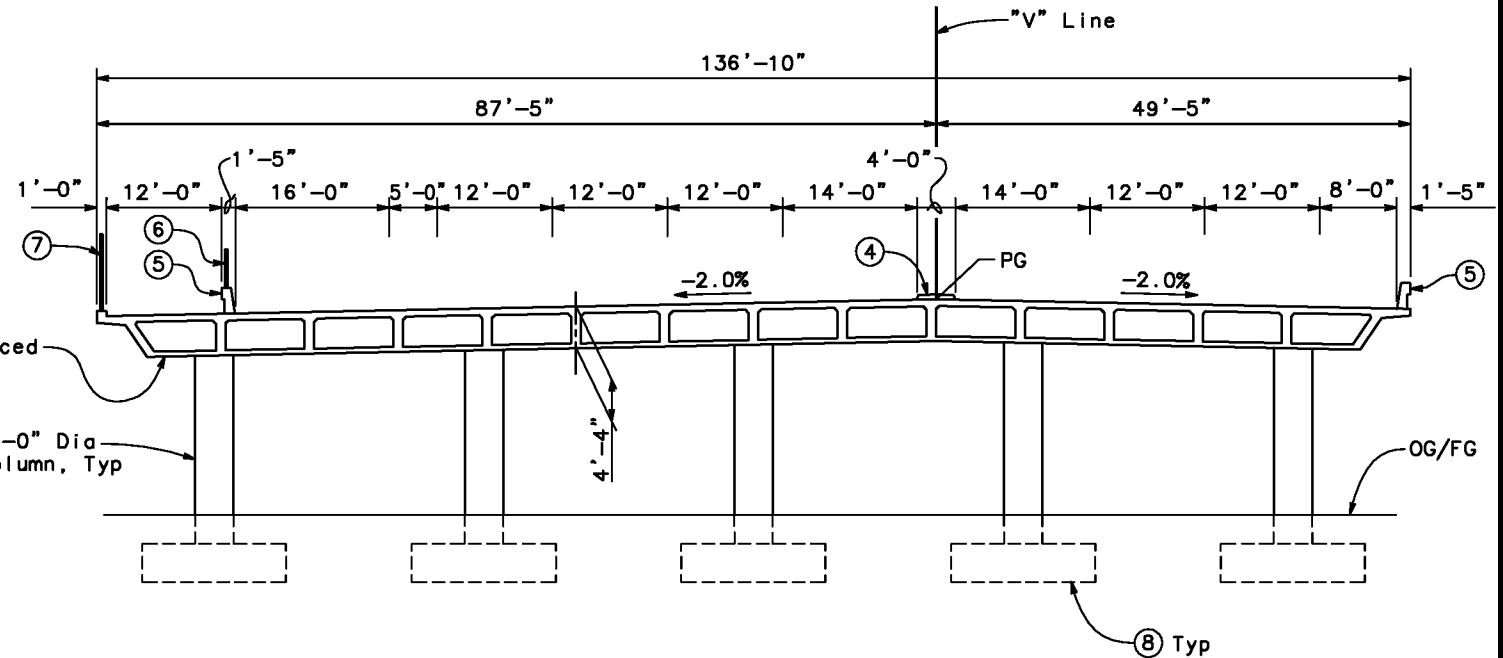
E. NORIEGA PROJECT ENGINEER

PLANNING STUDY	
GOLDEN STATE BLVD OC (BASE ALT)	
BRIDGE NO. 25-XXXX	CU
SCALE: AS NOTED	EA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
06	FRE	99	
MARK THOMAS & COMPANY, INC. 7571 N. REMINGTON AVE, STE 102 FRESNO, CA 93711			



"GSB" LINE
R = 825'
Δ = 85°59'17"
L = 1,238.14'
T = 769.16'



NOTES

- Paint "GOLDEN STATE BLVD UC"
- Paint "BR. NO.25-XXXX"
- Structure Approach Slab Type N(30S)
- Raised Median
- Concrete Barrier (Type 732)
- Metal Railing
- Bicycle Railing
- Assumed Spread Footing
- Indicates Point of Minimum Vertical Clearance

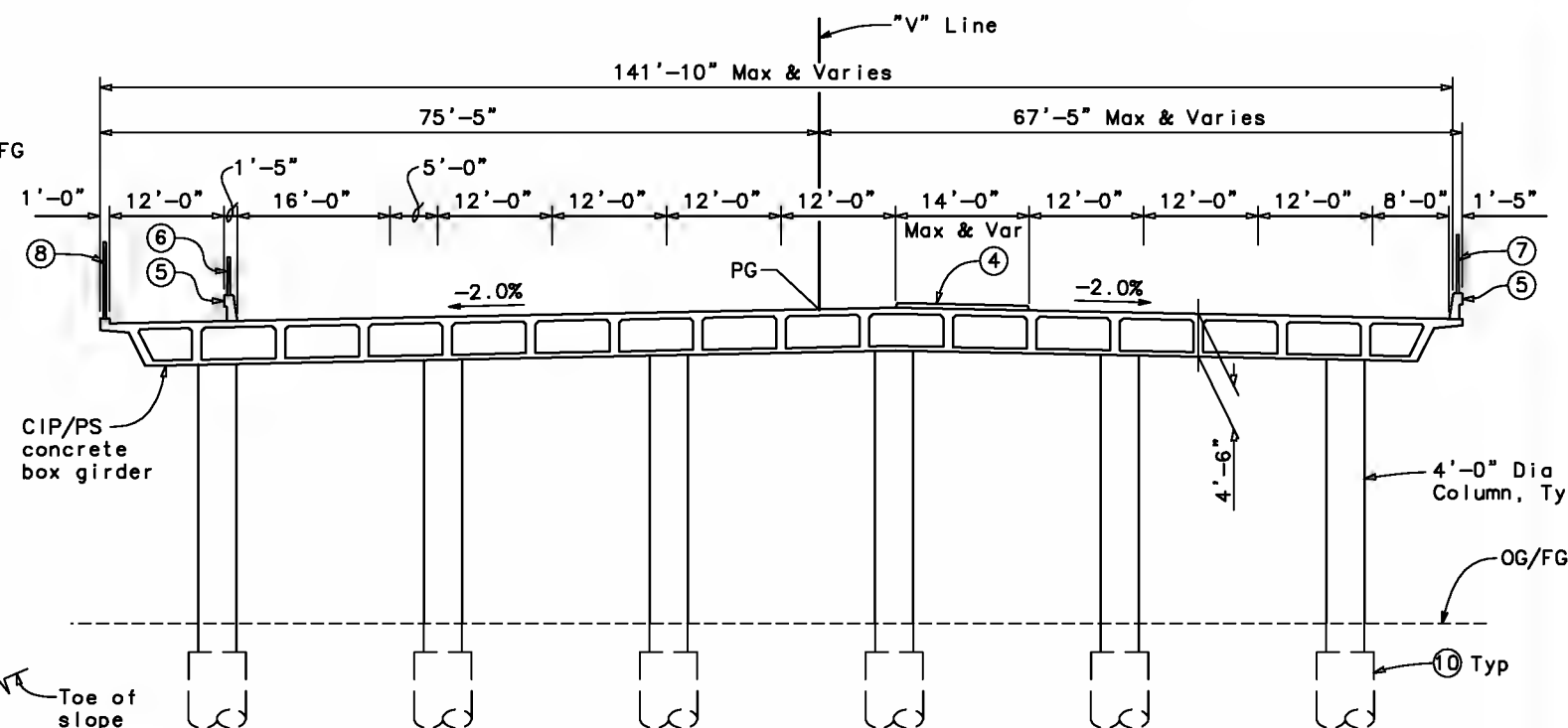
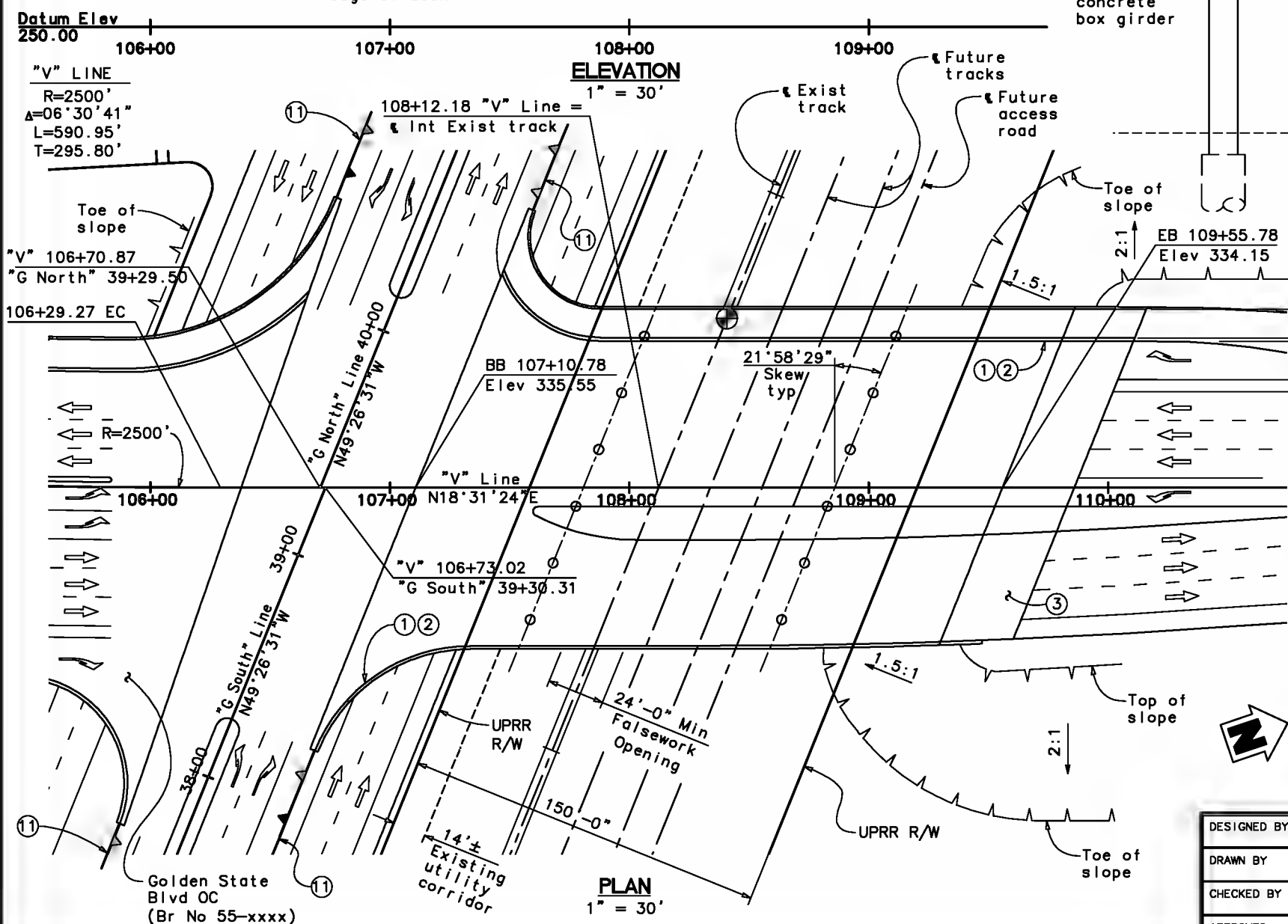
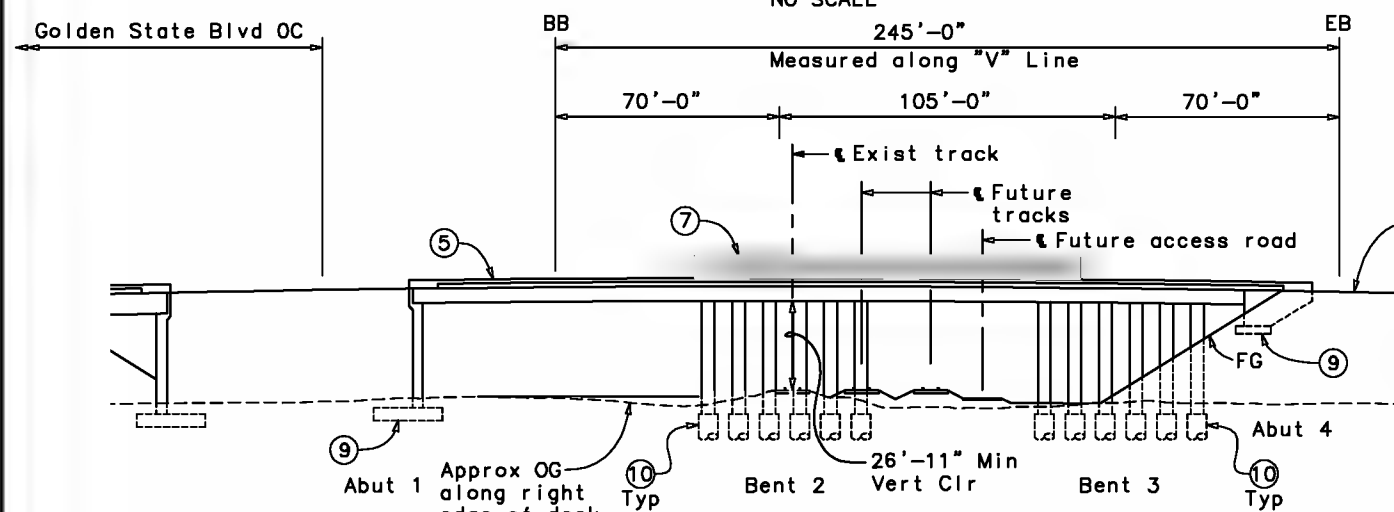
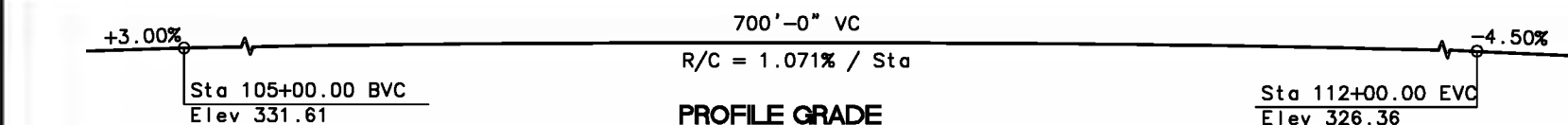
Date of Estimate	=	November 2010
Structure Depth	=	4'-4"
Length	=	153'-6"
Width	=	136'-10"
Area	=	21,004 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$178/SF
Total Cost	=	\$3,739,000

DESIGNED BY	S. MICHALSKI	DATE	11-15-10
DRAWN BY	S. MICHALSKI	DATE	11-15-10
CHECKED BY	L. SCHREY	DATE	.
APPROVED	.	DATE	.

E. NORIEGA PROJECT ENGINEER

PLANNING STUDY	
GOLDEN STATE BLVD UC (JUG HANDLE ALT)	
BRIDGE NO. 25-XXXX	CU
SCALE: AS NOTED	EA

DIST	COUNTY	ROUTE	FILE
06	FRE	99	TOTAL PROJECT
MARK THOMAS & COMPANY, INC. 7571 N. REMINGTON AVE, STE 102 FRESNO CA 93711			



TYPICAL SECTION
1" = 10'

NOTES

- ① Paint "VETERANS BOULEVARD OH"
- ② Paint "BR. NO.25-XXXX"
- ③ Structure Approach Slab Type N(30S)
- ④ Raised Median
- ⑤ Concrete Barrier (Type 732)
- ⑥ Metal Railing
- ⑦ Chain Link Railing Type 7
- ⑧ Bicycle Railing
- ⑨ Assumed Spread Footing
- ⑩ Assumed 6'-0" CIDH Piling
- ⑪ MSE Retaining Wall, see "Road Plans"
- Indicates Point of Minimum Vertical Clearance

Date of Estimate	=	November 2010
Structure Depth	=	4'-6"
Length	=	245'-0"
Width	=	142'-10" Max & Var
Area	=	36,035 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$246/SF
Total Cost	=	\$8,862,000

DESIGNED BY	K. MICHALSKI	DATE	11-09-10
DRAWN BY	K. MICHALSKI	DATE	11-09-10
CHECKED BY	L. SCHREY	DATE	
APPROVED		DATE	

E. NORIEGA
PROJECT ENGINEER

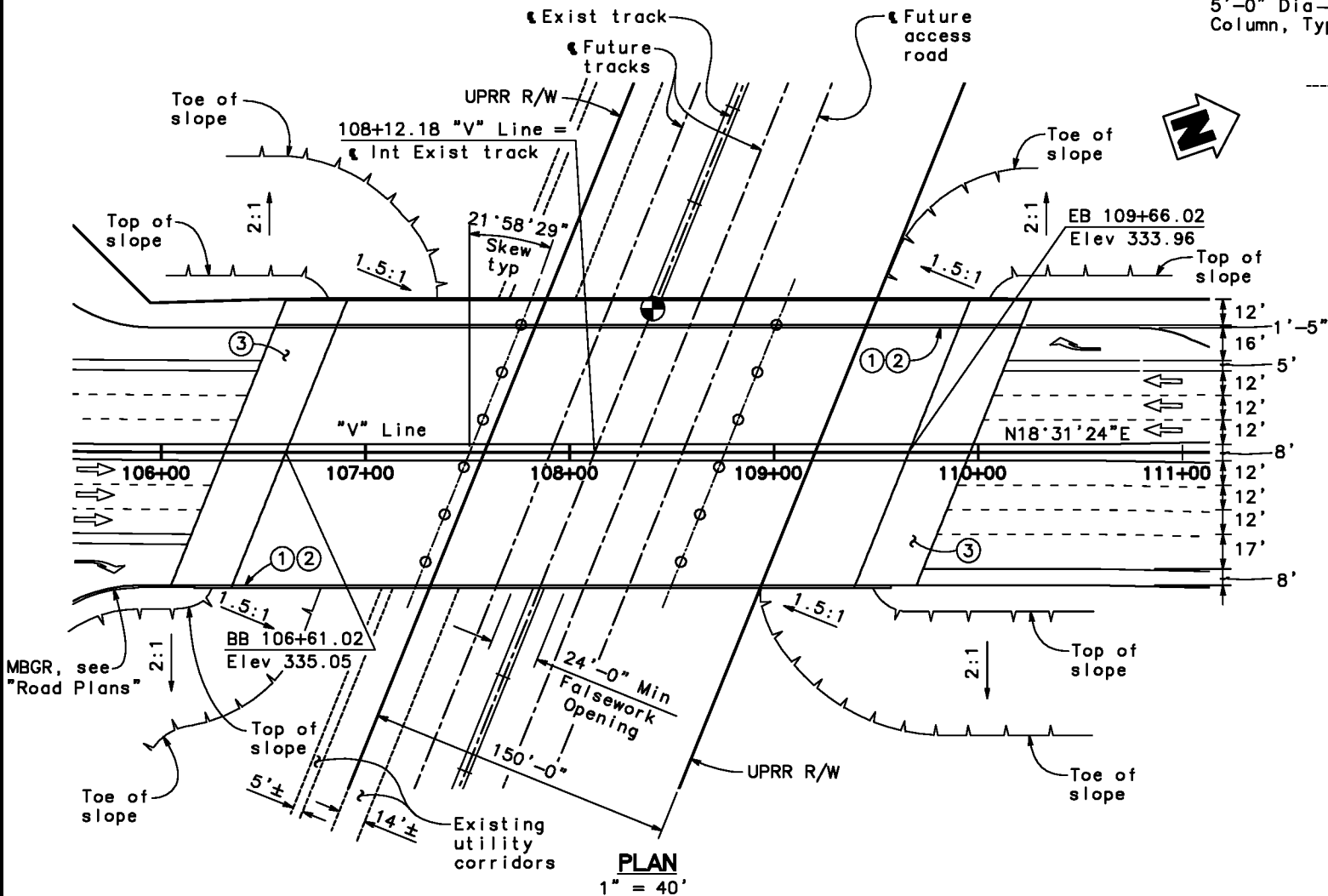
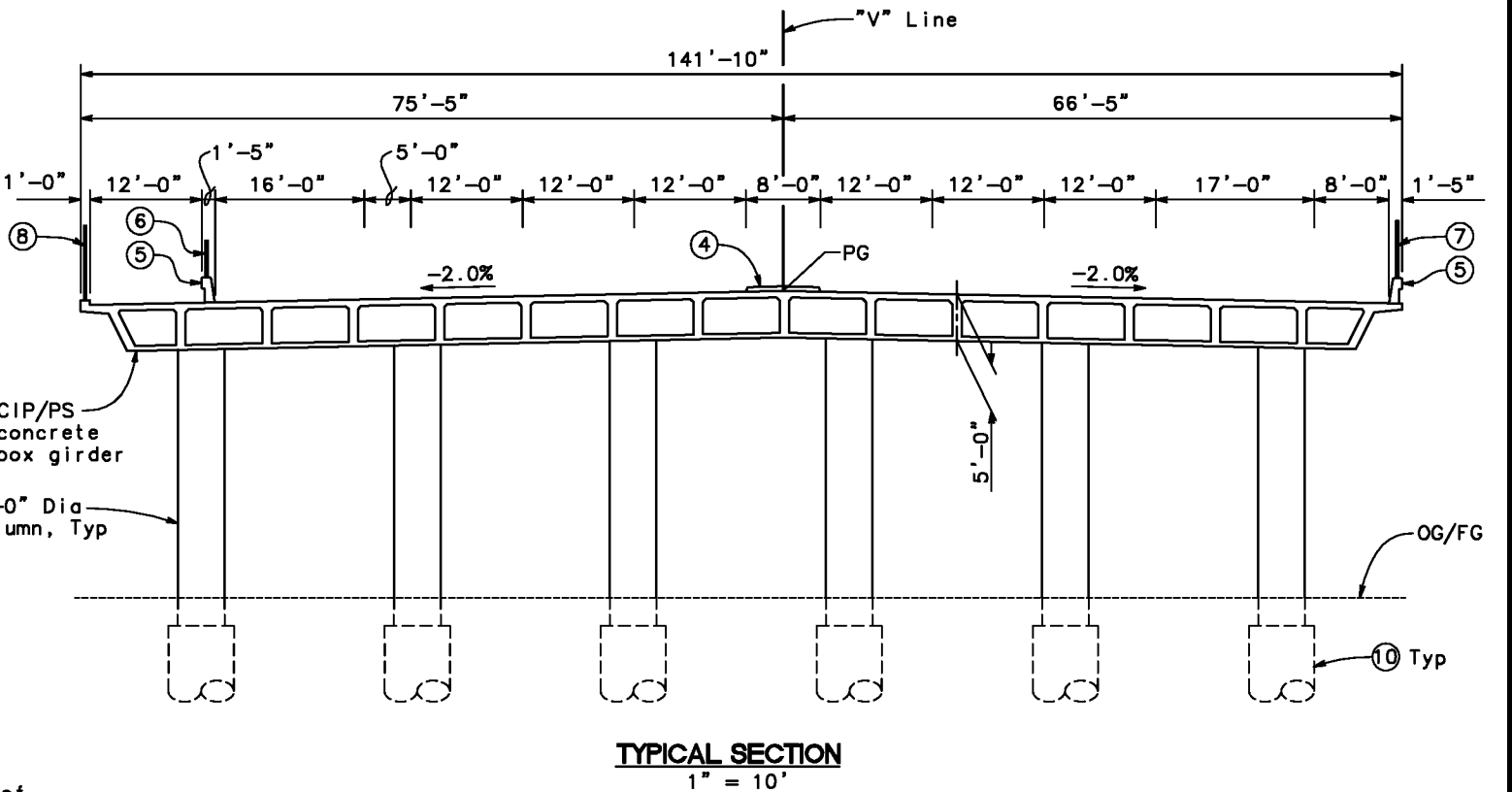
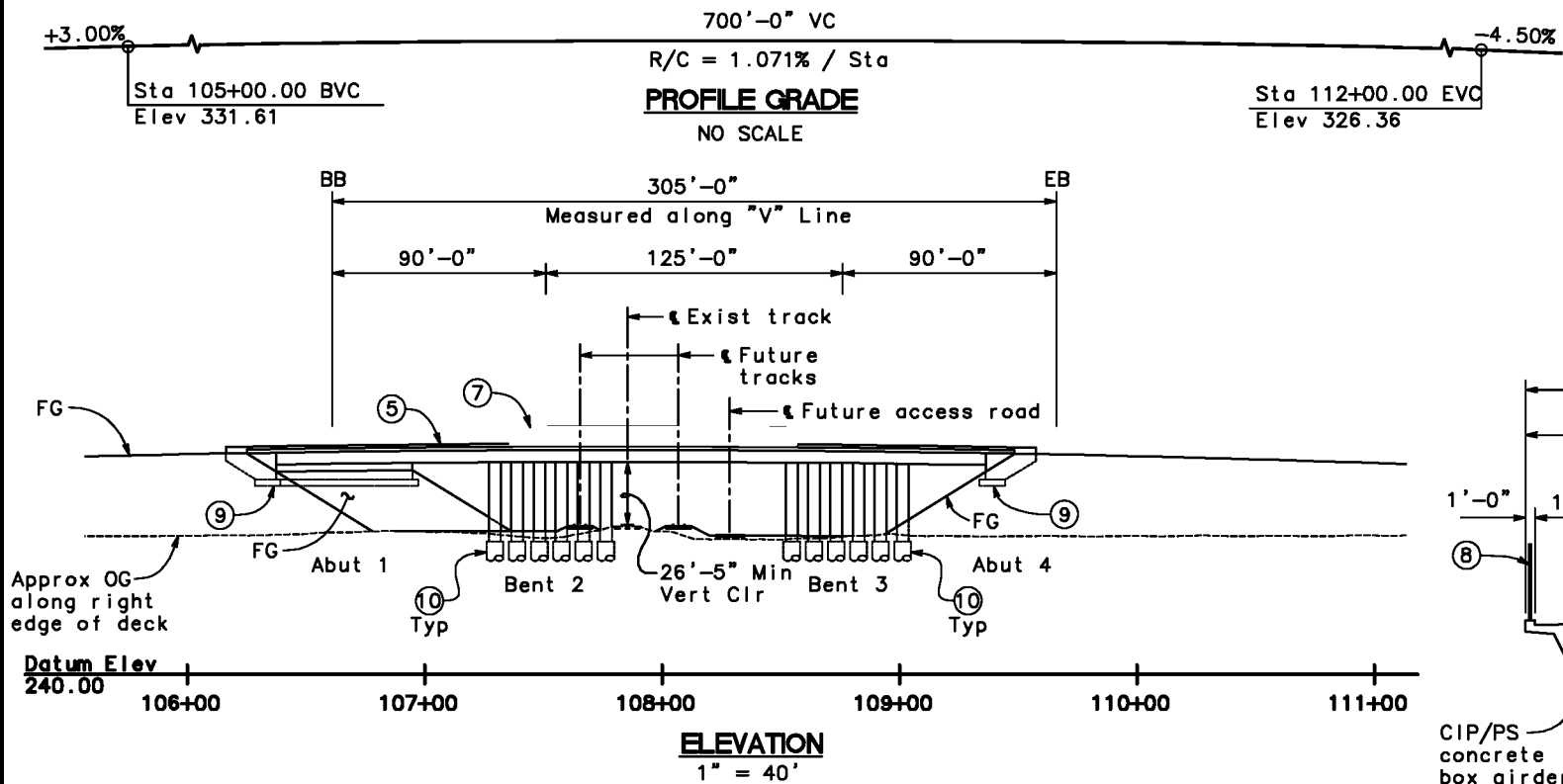
PLANNING STUDY

VETERANS BLVD OH (BASE ALT)

BRIDGE NO. 25-XXXX
SCALE: AS NOTED

CU
EA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT
06	FRE	99	
MARK THOMAS & COMPANY, INC. 7571 N. REMINGTON AVE, STE 102 FRESNO, CA 93711			



NOTES

- 1 Paint "VETERANS BOULEVARD OH"
- 2 Paint "BR. NO.25-XXXX"
- 3 Structure Approach Slab Type N(30S)
- 4 Raised Median
- 5 Concrete Barrier (Type 732)
- 6 Metal Railing
- 7 Chain Link Railing Type 7
- 8 Bicycle Railing
- 9 Assumed Spread Footing
- 10 Assumed 7'-0" CIDH Piling
- Indicates Point of Minimum Vertical Clearance

Date of Estimate	=	November 2010
Structure Depth	=	5'-0"
Length	=	305'-0"
Width	=	141'-10"
Area	=	43,259 SF
Cost/SF including 10% Mobilization & 25% Contingency	=	\$189/SF
Total Cost	=	\$8,198,000

DESIGNED BY	K. MICHALSKI	DATE	11-09-10
DRAWN BY	K. MICHALSKI	DATE	11-09-10
CHECKED BY	L. SCHREY	DATE	.
APPROVED	.	DATE	.

E. NORIEGA
PROJECT ENGINEER

PLANNING STUDY	
VETERANS BLVD OH (JUG HANDLE ALT)	
BRIDGE NO. 25-XXXX	CU
SCALE: AS NOTED	EA

APPENDIX H

PRELIMINARY COST ESTIMATES

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE 06-FRE-99

Type of Estimate (Pre-PSR,
PSR, PR, etc.): PR

Program Code: 400.00(Measure C)

PM: 28.87-30.11

EA: 06-0H3600

Project Description:

PP No. :

Limits: SR 99 between the Shaw Avenue and Herndon-Grantland Avenue interchanges. Veterans Boulevard
from station 71+00 to station 131+50, including minor improvements on all connecting
roadways.

Proposed Improvement: This project proposes to construct a new Type L-9 interchange on SR 99 @ Veterans Blvd;
(Scope) construct a grade separated crossing at the UPRR tracks; and construct Veterans Blvd from
Shaw Avenue to Herndon Avenue.

Alternative: Jug Handle Alternative - Proposed improvements with access between Veterans Boulevard and GSB
provided by using double 'jug-handle' shaped ramps to connect GSB to Veterans Boulevard;
GSB will be at-grade and re-aligned westerly and crosses under Veterans Boulevard.

ROADWAY ITEMS	\$46,120,000
STRUCTURE ITEMS	\$19,650,000
SUBTOTAL CONSTRUCTION	\$65,770,000
R/W & UTILITIES	\$23,850,000
TOTAL PROJECT COST	\$89,620,000

Reviewed by _____
Program Manager (Signature) (Date)

Approved by _____
Project Manager (Signature) (Phone) (Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 Pkm 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

I. ROADWAY ITEMS

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Section Cost</u>	
<u>Section 1 - Earthwork</u>					
Roadway Excavation	15,000	CY	\$15	\$225,000	
Basin Excavation	143,000	CY	\$15	\$2,145,000	
Imported Borrow	509,200	CY	\$14	\$7,128,800	
Clearing & Grubbing	120	AC	\$3,000	\$360,000	
Obliterate Surfacing	13,000	SY	\$3	\$39,000	
Develop Water Supply	1	LS	\$50,000	\$50,000	
				<u>Total Earthwork</u>	<u>\$9,947,800</u>
 <u>Section 2 - Structural Section *</u>					
Asphalt Concrete (0.5')	56,500	ton	\$70	\$3,955,000	
Aggregate Base (2.17')	117,000	CY	\$35	\$4,095,000	
				<u>Total Structural Section</u>	<u>\$8,050,000</u>
 <u>Section 3 - Drainage</u>					
Manhole	46	EA	\$6,500	\$299,000	
Drainage Inlet	22	EA	\$4,500	\$99,000	
18" RCP	2,195	LF	\$60	\$131,700	
24" RCP	1,920	LF	\$70	\$134,400	
36" RCP	4,200	LF	\$100	\$420,000	
42" RCP	1,520	LF	\$150	\$228,000	
54" RCP	800	LF	\$270	\$216,000	
60" RCP	3,810	LF	\$330	\$1,257,300	
				<u>Subtotal Drainage</u>	<u>\$2,785,400</u>

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE

06-FRE-99

KP: 28.87-30.11

EA: 06-0H3600

PP No. :

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Section Cost</u>
<u>Section 4 - Specialty Items</u>				
Landscaping and Irrigation	1,420,000	SF	\$2	\$2,840,000
Barriers and Guardrails	5,530	LF	\$40	\$221,200
Minor Concrete (Sidewalk)	1,500	CY	\$350	\$525,000
Minor Concrete (Curb & Gutter)	895	CY	\$350	\$313,250
Chain Link Fence	2,970	LF	\$15	\$44,550
Wire Mesh Fence	12,150	LF	\$8	\$97,200
Median (Textured Paving)	24,300	SF	\$15	\$364,500
Median Curb	520	CY	\$350	\$182,000
Storm Water BMP's	1	LS	\$725,625	\$725,625
Staking	1	LS	\$200,000	\$200,000
14" Water Main	2600	LF	\$70	\$182,000
8" Sewer Main	4900	LF	\$40	\$196,000
Water Main	12600	LF	\$80	\$1,008,000
Recycled Water Main	5050	LF	\$80	\$404,000
<u>Total Specialty Items</u>				<u>\$7,303,325</u>
<u>Section 5 - Traffic Items</u>				
Lighting	1	LS	\$600,000	\$600,000
Traffic Signals - New	6	EA	\$250,000	\$1,500,000
Permanent Signing & Striping	1	LS	\$60,000	\$60,000
Overhead Signs	12	EA	\$150,000	\$1,800,000
Traffic Management Plan	1	LS	\$70,000	\$70,000
Ramp Metering	4	EA	\$50,000	\$200,000
ITS	1	LS	\$413,000	\$413,000
<u>Total Traffic Items</u>				<u>\$4,643,000</u>

SUBTOTAL SECTIONS 1 - 5: \$29,944,125

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

<u>Section 6 - Minor Items</u>		(5-10%)			
Subtotal Sections 1 - 5	<u>\$29,944,125</u>	X	10%	<u>\$2,994,413</u>	
				TOTAL MINOR ITEMS:	<u><u>\$2,994,413</u></u>

<u>Section 7 - Roadway Mobilization</u>					
Subtotal Sections 1 - 5	<u>\$29,944,125</u>				
Minor Items	<u>\$2,994,413</u>				
Sum	<u>\$32,938,538</u>				
		(5-10%)			
		X	10%	<u>\$3,293,854</u>	
				TOTAL ROADWAY MOBILIZATION	<u><u>\$3,293,854</u></u>

<u>Section 8 - Roadway Additions</u>					
Supplemental					
Subtotal Sections 1 - 5	<u>\$29,944,125</u>				
Minor Items	<u>\$2,994,413</u>				
Sum	<u>\$32,938,538</u>				
		(5-10%)			
		X	10%	<u>\$3,293,854</u>	
Contingencies					
Subtotal Sections 1 - 5	<u>\$29,944,125</u>				
Minor Items	<u>\$2,994,413</u>				
Sum	<u>\$32,938,538</u>				
		X 20% *		<u>\$6,587,708</u>	
				TOTAL ROADWAY ADDITIONS	<u><u>\$9,881,561</u></u>

TOTAL ROADWAY ITEMS	<u><u>\$46,113,953</u></u>
(Total of Sections 1 - 8)	

Estimate			
Prepared By:	<u>Ed Noriega</u>	<u>(559) 447-1938</u>	<u>3/5/2013</u>
	(Print Name)	(Phone)	(Date)

* Use 25% at the PSR stage or a higher or lower rate if justified.

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
 06-FRE-99
 KP: 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

II. STRUCTURES ITEMS

	#1	#2	#3	#4	#5
Bridge Name	<u>Golden State</u>	<u>UPRR OH</u>	<u>Veterans OC</u>	<u>Ped UC</u>	<u>Ped UC</u>
Structure Type	<u>CIP/PS Box</u>	<u>CIP/PS Box</u>	<u>CIP/PS Box</u>	<u>Slab</u>	<u>Slab</u>
Width (FT) - out to out	<u>136.5'</u>	<u>141.8'</u>	<u>134.8'</u>	<u>56.6'-65.7'</u>	<u>62.8'</u>
Span Lengths (FT)	<u>153.5'</u>	<u>70',105',70'</u>	<u>140', 144'</u>	<u>35'</u>	<u>36'</u>
Total Area (SF)	<u>21,004</u>	<u>43,259</u>	<u>38,293</u>	<u>2,109</u>	<u>2,262</u>
Footing Type (pile/spread)	<u>Spread</u>	<u>Spread</u>	<u>Spread</u>	<u>CIDH Pile</u>	<u>CIDH Pile</u>
Cost per SF. Including: Mobilization: 10% Contingency: 25%	<u>\$178</u>	<u>\$189</u>	<u>\$172</u>	<u>\$274</u>	<u>\$248</u>
Total Cost For Structure	<u>\$3,739,000</u>	<u>\$8,176,000</u>	<u>\$6,587,000</u>	<u>\$578,000</u>	<u>\$561,000</u>
SUBTOTAL STRUCTURES ITEMS					<u><u>\$19,641,000</u></u>

TOTAL STRUCTURES ITEMS: \$19,641,000

COMMENTS:

Estimate Prepared By: Kevin Michalski (949) 477-9000 1/25/2012
 (Print Name) (Phone) (Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

06-FRE-99

KP: 28.87-30.11

EA: 06-0H3600

PP No. : 0

III. RIGHT OF WAY

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility relocation occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the report. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	Current Area (Future Use)	Escalation Rate (%/yr)	Escalated Value *
Acquisition, including excess lands and damages to remainders	\$20,621,000		\$20,621,000
Utility Relocation (Project Cost)	\$2,431,000		\$2,431,000
Clearance / Demolition	\$100,000		\$100,000
Relocation Assistance Program	\$500,000		\$500,000
Environmental Mitigation			\$0
Title and Escrow Fees	\$29,000		\$29,000
Hazardous Waste Clean-up	\$15,600		\$15,600
R/W Support Cost	\$145,000		\$145,000
TOTAL RIGHT OF WAY ** (CURRENT VALUE)	\$23,841,600	TOTAL ESCALATED RIGHT OF WAY	\$23,841,600

* - Escalated to assumed year of advertising:

** - Current total value for use on sheet 1 of 6

Estimate prepared by: Mike Lahodny (559) 289-8344 3/5/2013
(Print Name) (Phone) (Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE 06-FRE-99

Type of Estimate (Pre-PSR,
PSR, PR, etc.): PR

Program Code: 400.00(Measure C)

PM: 28.87-30.11

EA: 06-OH3600

Project Description:

PP No. :

Limits: Veterans Boulevard from Shaw Avenue to STA 71+00; Veterans Boulevard from
STA 131+50 to Herndon Avenue. Includes minor improvements on all connecting roadways.

Proposed Improvement: This project proposes to construct a new Type L-9 interchange on SR 99 @ Veterans Blvd;
(Scope) construct a grade separated crossing at the UPRR tracks; and construct Veterans Blvd from
Shaw Avenue to Herndon Avenue.

Alternative: Veterans Extension - project portions outside of interchange and grade separation alternatives limits

ROADWAY ITEMS	\$21,310,000
STRUCTURE ITEMS	\$0
SUBTOTAL CONSTRUCTION	\$21,310,000
R/W & UTILITIES	\$4,409,000
TOTAL PROJECT COST	\$25,719,000

Reviewed by _____
Program Manager (Signature) (Date)

Approved by _____
Project Manager (Signature) (Phone) (Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 Pkm 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

I. ROADWAY ITEMS

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Item Cost</u>	<u>Section Cost</u>
<u>Section 1 - Earthwork</u>					
Roadway Excavation	56,400	CY	\$10	\$564,000	
Basin Excavation	29,500	CY	\$10	\$295,000	
Imported Borrow	0	CY	\$14	\$0	
Clearing & Grubbing	47	acres	\$3,000	\$141,000	
Obliterate Surfacing	8,450	SY	\$3	\$25,350	
				<u>Subtotal Earthwork</u>	<u>\$1,025,350</u>
<u>Section 2 - Structural Section</u>					
Asphalt Concrete (0.5')	34,000	ton	\$70	\$2,380,000	
Aggregate Base (0.83')	27,000	CY	\$35	\$945,000	
				<u>Subtotal Structural Section</u>	<u>\$3,325,000</u>
<u>Section 3 - Drainage</u>					
Manhole	25	EA	\$6,500	\$162,500	
Drainage Inlet	20	EA	\$4,500	\$90,000	
18" RCP	1,520	LF	\$60	\$91,200	
24" RCP	1,560	LF	\$70	\$109,200	
30" RCP	610	LF	\$85	\$51,850	
36" RCP	960	LF	\$100	\$96,000	
48" RCP	1,200	LF	\$210	\$252,000	
66" RCP	1,000	LF	\$390	\$390,000	
Box Culvert	1	LS	\$400,000	\$400,000	
				<u>Subtotal Drainage</u>	<u>\$1,642,750</u>

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA:
 PP No. :

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Item Cost</u>	<u>Section Cost</u>
<u>Section 4 - Specialty Items</u>					
Landscaping	241,000	SF	\$2	\$482,000	
Barriers and Guardrails	164	LF	\$40	\$6,560	
Minor Concrete (Sidewalk)	1,470	CY	\$350	\$514,500	
Minor Concrete (Curb & Gutter)	800	CY	\$350	\$280,000	
Chain Link Fence	3,010	LF	\$15	\$45,150	
Retaining Walls	0	SF	\$50	\$0	
Median (Textured Paving)	7,320	SF	\$10	\$73,200	
Median Curb	480	CY	\$350	\$168,000	
Storm Water BMP's	1	LS	\$163,000	\$163,000	
Pedestrian Undercrossing	1	LS	\$1,800,000	\$1,800,000	
14" Water Main	6200	LF	\$70	\$434,000	
Water Main	3000	LF	\$80	\$240,000	
Recycled Water Main	13000	LF	\$80	\$1,040,000	
				<u>Subtotal Specialty Items</u>	<u>\$5,246,410</u>

<u>Section 5 - Traffic Items</u>					
Lighting	1	LS	\$700,000	\$700,000	
Traffic Signals - New	3	EA	\$250,000	\$750,000	
Permanent Signing & Striping	1	LS	\$180,000	\$180,000	
Overhead Signs	1	EA	\$100,000	\$100,000	
Traffic Management Plan	1	LS	\$100,000	\$100,000	
Ramp Metering	0	EA	\$50,000	\$0	
ITS	1	LS	\$764,000	\$764,000	
				<u>Subtotal Traffic Items</u>	<u>\$2,594,000</u>

SUBTOTAL SECTIONS 1 - 5: \$13,833,600

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA: 0
 PP No. : 0

<u>Section 6 - Minor Items</u>		(5-10%)			
Subtotal Sections 1 - 5	<u>\$13,833,600</u>	X	10%	<u>\$1,383,400</u>	
				TOTAL MINOR ITEMS:	<u><u>\$1,383,400</u></u>

<u>Section 7 - Roadway Mobilization</u>		(5-10%)			
Subtotal Sections 1 - 5	<u>\$13,833,600</u>				
Minor Items	<u>\$1,383,400</u>				
Sum	<u>\$15,217,000</u>	X	10%	<u>\$1,521,700</u>	
				TOTAL ROADWAY MOBILIZATION	<u><u>\$1,521,700</u></u>

<u>Section 8 - Roadway Additions</u>		(5-10%)			
Supplemental					
Subtotal Sections 1 - 5	<u>\$13,833,600</u>				
Minor Items	<u>\$1,383,400</u>				
Sum	<u>\$15,217,000</u>	X	10%	<u>\$1,521,696</u>	
Contingencies					
Subtotal Sections 1 - 5	<u>\$13,833,600</u>				
Minor Items	<u>\$1,383,400</u>				
Sum	<u>\$15,217,000</u>	X	20%	<u>\$3,043,393</u>	
				TOTAL ROADWAY ADDITIONS	<u><u>\$4,565,100</u></u>

TOTAL ROADWAY ITEMS	<u><u>\$21,303,800</u></u>
(Total of Sections 1 - 8)	

Estimate			
Prepared By:	<u>Ed Noriega</u>	<u>(559) 447-1938</u>	<u>3/5/2013</u>
	(Print Name)	(Phone)	(Date)

* Use 25% at the PSR stage or a higher or lower rate if justified.

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE

06-FRE-99

KP: 28.87-30.11

EA: 0

PP No. : 0

II. STRUCTURES ITEMS

	#1	#2	#3	#4
Bridge Name	<u>Golden State</u>	<u>UPRR OH</u>	<u>Veterans OC</u>	<u>Ped UC</u>
Structure Type	<u>CIP P/S Box</u>	<u>CIP P/S Box</u>	<u>CIP P/S Box</u>	<u>Slab</u>
Width (FT) - out to out	<u>142.8</u>	<u>142.8</u>	<u>124.8</u>	<u>155'</u>
Span Lengths (FT)	<u>80</u>	<u>210</u>	<u>140', 144'</u>	<u>36'</u>
Total Area (SF)	<u>13,210</u>	<u>31,060</u>	<u>35,290</u>	<u>5,675</u>
Footing Type (pile/spread)	<u>Pile</u>	<u>Pile</u>	<u>Pile</u>	<u>N/A</u>
Cost per SF.	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>	<u>\$0.00</u>
Including:				
Mobilization: 10%				
Contingency: 25%				
Total Cost For Structure	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

SUBTOTAL STRUCTURES ITEMS \$0

TOTAL STRUCTURES ITEMS: \$0

COMMENTS:

Estimate Prepared By:	<u>Kevin Michalski</u>	<u>(949) 477-9000</u>	<u>1/25/2012</u>
	(Print Name)	(Phone)	(Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA: 0
 PP No. : 0

III. RIGHT OF WAY

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility relocation occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the report. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	<u>Current Area (Future Use)</u>	<u>Escalation Rate (%/yr)</u>	<u>Escalated Value *</u>
Acquisition, including excess lands and damages to remainders	<u>\$3,615,000</u>		<u>\$3,615,000</u>
Utility Relocation (Project Cost)	<u>\$668,000</u>		<u>\$668,000</u>
Clearance / Demolition	<u>\$0</u>		<u>\$0</u>
Relocation Assistance Program	<u>\$0</u>		<u>\$0</u>
Environmental Mitigation	<u>\$0</u>		<u>\$0</u>
Title and Escrow Fees	<u>\$21,000</u>		<u>\$21,000</u>
Hazardous Waste Clean-up	<u>\$0</u>		<u>\$0</u>
R/W Support Cost	<u>\$105,000</u>		<u>\$105,000</u>
TOTAL RIGHT OF WAY ** (CURRENT VALUE)	<u>\$4,409,000</u>	TOTAL ESCALATED RIGHT OF WAY	<u>\$4,409,000</u>

* - Escalated to assumed year of advertising: _____

** - Current total value for use on sheet 1 of 6

Estimate prepared by:	<u>Mike Lahodny</u>	<u>(559) 289-8344</u>	<u>3/5/2013</u>
	(Print Name)	(Phone)	(Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE 06-FRE-99

Type of Estimate (Pre-PSR,
PSR, PR, etc.): PR

Program Code: 400.00(Measure C)

PM: 28.87-30.11

EA: 06-0H3600

Project Description:

PP No. :

Limits: SR 99 between the Shaw Avenue and Herndon-Grantland Avenue interchanges. Veterans Boulevard
from station 71+00 to station 131+50, including minor improvements on all connecting
roadways.

Proposed Improvement: This project proposes to construct a new Type L-9 interchange on SR 99 @ Veterans Blvd;
(Scope) construct a grade separated crossing at the UPRR tracks; and construct Veterans Blvd from
Shaw Avenue to Herndon Avenue.

Alternative: **Base Alternative** - Proposed improvements with access between Veterans Boulevard and GSB
provided by using retaining walls to elevate a portion of GSB to Veterans Boulevard while
keeping the GSB through lanes at-grade. Veterans Boulevard STA 71+00 to STA 131+50.

ROADWAY ITEMS	\$49,510,000
STRUCTURE ITEMS	\$22,280,000
SUBTOTAL CONSTRUCTION	\$71,790,000
R/W & UTILITIES	\$21,230,000
TOTAL PROJECT COST	\$93,020,000

Reviewed by _____
Program Manager (Signature) (Date)

Approved by _____
Project Manager (Signature) (Phone) (Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 Pkm 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

I. ROADWAY ITEMS

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Section Cost</u>	
<u>Section 1 - Earthwork</u>					
Roadway Excavation	49,000	CY	\$15	\$735,000	
Basin Excavation	122,505	CY	\$15	\$1,837,575	
Imported Borrow	393,400	CY	\$14	\$5,507,600	
Clearing & Grubbing	104	AC	\$3,000	\$312,000	
Obliterate Surfacing	4,200	SY	\$3	\$12,600	
Develop Water Supply	1	LS	\$50,000	\$50,000	
				<u>Total Earthwork</u>	<u>\$8,454,775</u>
 <u>Section 2 - Structural Section *</u>					
Asphalt Concrete (0.5')	55,500	ton	\$70	\$3,885,000	
Aggregate Base (2.17')	115,000	CY	\$35	\$4,025,000	
				<u>Total Structural Section</u>	<u>\$7,910,000</u>
 <u>Section 3 - Drainage</u>					
Manhole	46	EA	\$6,500	\$299,000	
Drainage Inlet	22	EA	\$4,500	\$99,000	
18" RCP	2,195	LF	\$60	\$131,700	
24" RCP	1,920	LF	\$70	\$134,400	
36" RCP	4,200	LF	\$100	\$420,000	
42" RCP	1,520	LF	\$150	\$228,000	
54" RCP	800	LF	\$270	\$216,000	
60" RCP	3,810	LF	\$330	\$1,257,300	
				<u>Subtotal Drainage</u>	<u>\$2,785,400</u>

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA: 06-0H3600
 PP No. :

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Section Cost</u>
<u>Section 4 - Specialty Items</u>				
Landscaping	1,492,500	SF	\$2	\$2,985,000
Barriers and Guardrails	10,300	LF	\$40	\$412,000
Minor Concrete (Sidewalk)	1,200	CY	\$350	\$420,000
Minor Concrete (Curb & Gutter)	780	CY	\$350	\$273,000
Chain Link Fence	3,230	LF	\$15	\$48,450
Wire Mesh Fence	12,200	LF	\$8	\$97,600
Median (Textured Paving)	15,700	SF	\$15	\$235,500
Median Curb	530	CY	\$350	\$185,500
MSE Walls	79,630	SF	\$50	\$3,981,500
Storm Water BMP's	1	LS	\$806,085	\$806,085
Staking	1	LS	\$200,000	\$200,000
14" Water Main	2600	LF	\$70	\$182,000
8" Sewer Main	4900	LF	\$40	\$196,000
Water Main	12600	LF	\$80	\$1,008,000
Recycled Water Main	5050	LF	\$80	\$404,000
				<u>Total Specialty Items</u>
				<u>\$11,435,000</u>
<u>Section 5 - Traffic Items</u>				
Lighting	1	LS	\$600,000	\$600,000
Traffic Signals - New	5	EA	\$250,000	\$1,250,000
Permanent Signing & Striping	1	LS	\$60,000	\$60,000
Overhead Signs	12	EA	\$150,000	\$1,800,000
Traffic Management Plan	1	LS	\$70,000	\$70,000
Ramp Metering	4	EA	\$50,000	\$200,000
ITS	1	LS	\$368,000	\$368,000
				<u>Total Traffic Items</u>
				<u>\$4,348,000</u>
SUBTOTAL SECTIONS 1 - 5:				<u>\$32,148,000</u>

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
 KP: 28.87-30.11
 EA: 06-0H3600
 PP No. : 0

<u>Section 6 - Minor Items</u>		(5-10%)			
Subtotal Sections 1 - 5	<u>\$32,148,000</u>	X	10%	<u>\$3,214,800</u>	
				TOTAL MINOR ITEMS:	<u><u>\$3,215,000</u></u>

<u>Section 7 - Roadway Mobilization</u>					
Subtotal Sections 1 - 5	<u>\$32,148,000</u>				
Minor Items	<u>\$3,215,000</u>				
	Sum			(5-10%)	
		X	10%	<u>\$3,536,300</u>	
				TOTAL ROADWAY MOBILIZATION	<u><u>\$3,537,000</u></u>

<u>Section 8 - Roadway Additions</u>					
Supplemental					
Subtotal Sections 1 - 5	<u>\$32,148,000</u>				
Minor Items	<u>\$3,215,000</u>				
	Sum			(5-10%)	
		X	10%	<u>\$3,536,300</u>	
Contingencies					
Subtotal Sections 1 - 5	<u>\$32,148,000</u>				
Minor Items	<u>\$3,215,000</u>				
	Sum			X 20% *	<u>\$7,072,600</u>
				TOTAL ROADWAY ADDITIONS	<u><u>\$10,609,000</u></u>

	TOTAL ROADWAY ITEMS	<u><u>\$49,509,000</u></u>
(Total of Sections 1 - 8)		

Estimate			
Prepared By:	<u>Ed Noriega</u>	<u>(559) 447-1938</u>	<u>3/6/2013</u>
	(Print Name)	(Phone)	(Date)

* Use 25% at the PSR stage or a higher or lower rate if justified.

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE

06-FRE-99

KP: 28.87-30.11

EA: 06-0H3600

PP No. : 0

II. STRUCTURES ITEMS

	#1	#2	#3	#4	#5
Bridge Name	<u>Golden State OC</u>	<u>UPRR OH</u>	<u>Veterans OC</u>	<u>Ped UC</u>	<u>Ped UC</u>
Structure Type	<u>CIP/PS Box</u>	<u>CIP/PS Box</u>	<u>CIP/PS Box</u>	<u>Slab</u>	<u>Slab</u>
Width (FT) - out to out	<u>142.8'</u>	<u>141.8'</u>	<u>134.8'</u>	<u>56.6'-65.7'</u>	<u>62.8'</u>
Span Lengths (FT)	<u>105'</u>	<u>70',105',70'</u>	<u>140', 144'</u>	<u>35'</u>	<u>36'</u>
Total Area (SF)	<u>17,127</u>	<u>36,035</u>	<u>38,293</u>	<u>2,109</u>	<u>2,262</u>
Footing Type (pile/spread)	<u>Spread</u>	<u>Spread</u>	<u>Spread</u>	<u>CIDH Pile</u>	<u>CIDH Pile</u>
Cost per SF. Including: Mobilization: 10% Contingency: 25%	<u>\$332</u>	<u>\$246</u>	<u>\$172</u>	<u>\$274</u>	<u>\$248</u>
Total Cost For Structure	<u>\$5,687,000</u>	<u>\$8,865,000</u>	<u>\$6,587,000</u>	<u>\$578,000</u>	<u>\$561,000</u>
SUBTOTAL STRUCTURES ITEMS					<u><u>\$22,278,000</u></u>

TOTAL STRUCTURES ITEMS: \$22,278,000

COMMENTS:

Estimate Prepared By:	<u>Kevin Michalski</u>	<u>(949) 477-9000</u>	<u>1/25/2012</u>
	(Print Name)	(Phone)	(Date)

PRELIMINARY PROJECT COST ESTIMATE SUMMARY

DIST - CO - RTE
06-FRE-99
KP: 28.87-30.11
EA: 06-0H3600
PP No. : 0

III. RIGHT OF WAY

Right-of-Way estimates should consider the probable highest and best use and type and intent of improvements at the time of acquisition. Assume acquisition including utility relocation occurs at the right of way certification milestone as shown in the Funding and Scheduling Section of the report. For further guidance see Chapter 1, Caltrans Right of Way Procedural Handbook.

	<u>Current Area</u> <u>(Future Use)</u>	<u>Escalation</u> <u>Rate (%/yr)</u>	<u>Escalated</u> <u>Value *</u>
Acquisition, including excess lands and damages to remainders	<u>\$17,926,000</u>	<u></u>	<u>\$17,926,000</u>
Utility Relocation (Project Cost)	<u>\$2,514,000</u>	<u></u>	<u>\$2,514,000</u>
Clearance / Demolition	<u>\$100,000</u>	<u></u>	<u>\$100,000</u>
Relocation Assistance Program	<u>\$500,000</u>	<u></u>	<u>\$500,000</u>
Environmental Mitigation	<u>\$0</u>	<u></u>	<u>\$0</u>
Title and Escrow Fees	<u>\$29,000</u>	<u></u>	<u>\$29,000</u>
Hazardous Waste Clean-up	<u>\$15,600</u>	<u></u>	<u>\$15,600</u>
R/W Support Cost	<u>\$145,000</u>	<u></u>	<u>\$145,000</u>
TOTAL RIGHT OF WAY ** (CURRENT VALUE)	<u>\$21,229,600</u>	TOTAL ESCALATED RIGHT OF WAY	<u>\$21,229,600</u>

* - Escalated to assumed year of advertising:

** - Current total value for use on sheet 1 of 6

Estimate prepared by: Mike Lahodny (559) 289-8344 3/5/2013
(Print Name) (Phone) (Date)

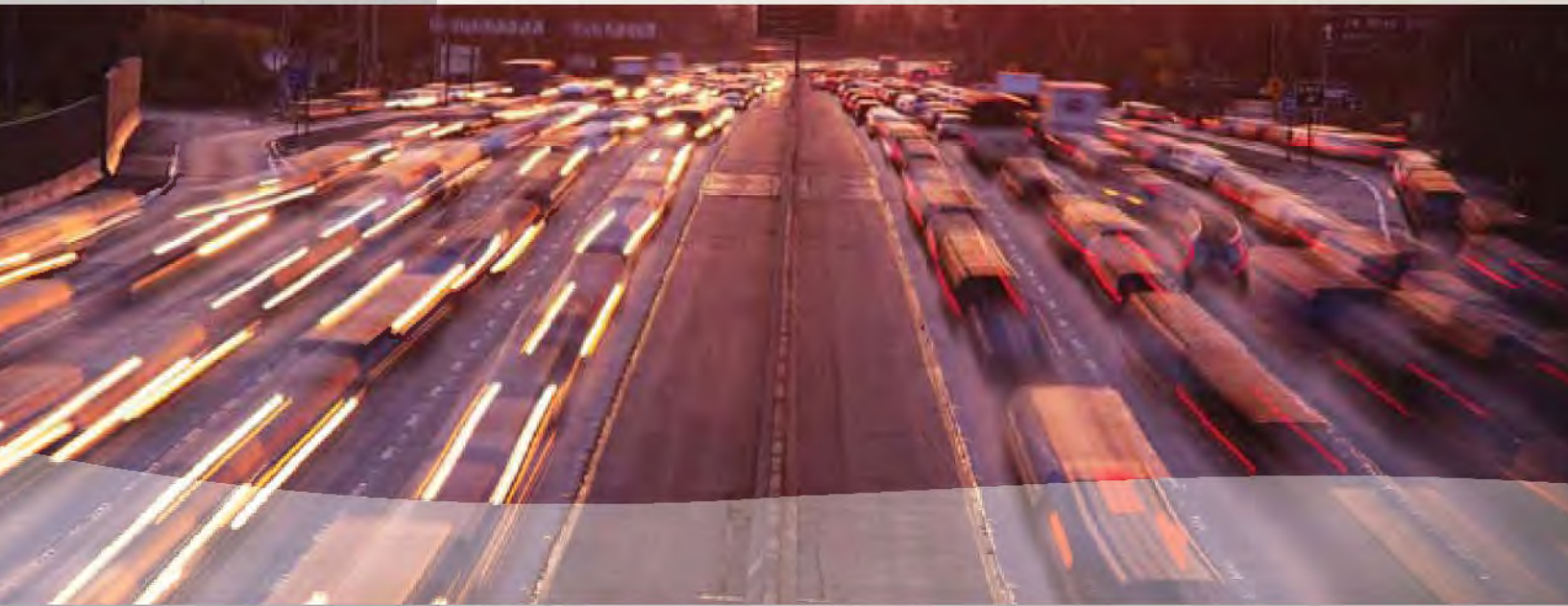
APPENDIX I

TRAFFIC OPERATIONS REPORT

(Cover Page)

Traffic Operations Report

State Route 99/Veterans Boulevard Interchange
Project Approval and Environmental Design (PA&ED)



Prepared by: **FEHR & PEERS**
TRANSPORTATION CONSULTANTS

2990 Lava Ridge Court,
Suite 200
Roseville, CA 95661

December 2010

APPENDIX J

RIGHT OF WAY DATA SHEETS

UTILITY INFORMATION SHEETS

UTILITY CONFLICT SUMMARY



To: District Office Chief
R/W Local Public Agency Services

Attention: District Branch Chief
Local Public Agency Services

Subject: **RIGHT OF WAY DATA SHEET- LOCAL PUBLIC AGENCY SERVICES**

Project Description: **SR99/Veterans Boulevard Interchange – Jug Alternative**

The information in this data sheet was developed by Edgar Noriega, P.E - Mark Thomas & Company, Inc.

I. **Right of Way Engineering**

Will right of way engineering be required for this project?

No ☐

Yes ☒

- Hard copy (base map)
- Appraisal map
- Acquisition Documents
- Property Transfer Documents
- R/W Record Map
- Record of Survey

II. **Engineering Surveys**

1. Is any surveying or photogrammetric mapping required?

No ☐ Yes ☒

2. **Datum Requirements**

Yes ☒ Project will adhere to the following criteria.

- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English units.
- Vertical - datum policy is NAVD 88.
- Units - English is required.

No ☐ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes ☒

No ☐ Provide explanation on additional page.



III. **Parcel Information (Land and Improvements)**

Are there any property rights required within the proposed project limits?

No _____ Yes X (Complete the following)

	Part Take	Full Take	Estimate \$
A. Number of Vacant Land Parcels	<u> 5 </u>	<u> 1 </u>	<u>\$ 5,504,427</u>
B. Number of Single Family Residential Units	<u> 2 </u>	<u> 0 </u>	<u>\$ 2223</u>
C. Number of Multi-Family Residential Units	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
D. Number of Commercial/Industrial Parcels	<u> 18 </u>	<u> 3 </u>	<u>\$ 14,114,578</u>
E. Number of Farm/Agricultural Parcels	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
F. Permanent and/or Temporary Easements	<u> 1 </u>	<u> 0 </u>	<u>\$ 125,000</u>
G. Other Parcels (define in "Remarks" section)	<u> 0 </u>	<u> 0 </u>	<u>\$ 875,000</u>
Totals	<u> 26 </u>	<u> 4 </u>	<u>\$ 20,621,000 rd</u>

Right of way acquisition requires rights from 30 parcels (based on APN). Of the 30 parcels, 29 parcels are privately owned and one Union Pacific Railroad parcel (Item F). The area consists of mixed zoning including residential, industrial and commercial. Four parcels are full acquisitions of which two have major improvements. Twelve of the parcels include sub parcels for easements. Access rights will be required on parcels acquired for the State. Some Outdoor Advertising Structures are in conflict and will need to be relocated (Item G)

IV. **Dedications**

Are there any properties rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No X Yes _____ (Complete the following)



V. **Excess Lands / Relinquishments**

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No X Yes

VI. **Relocation Information**

Are relocation displacements anticipated?

No Yes X (Complete the following)

A. Number of Single Family Residential Units Estimated RAP Payments	<u> 0 </u>	<u> \$ 0 </u>
B. Number of Multi-Family Residential Units Estimated RAP Payments	<u> 0 </u>	<u> \$ 0 </u>
C. Number of Business/Nonprofit Estimated RAP Payments	<u> 2 </u>	<u> \$ 500,000 </u>
D. Number of Farms Estimated RAP Payments	<u> 0 </u>	<u> \$ 0 </u>
E. Other (define in the "Remarks" section) Estimated RAP Payments	<u> 0 </u>	<u> \$ 0 </u>
Totals	<u> 2 </u>	<u> \$ 500,000 </u>



VII. **Utility Relocation Information**

Anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes x (Complete the following)

Facility	Owner	Estimated Relocation Expense		
		State Obligation *	Local Obligation	Utility Owner Obligation
A. Telecommunication	AT&T	\$ 0	\$201,400	\$ 0
B. Telecommunication	QWEST	\$ 0	\$200,000	\$ 0
C. Telecommunication	SPRINT	\$ 0	\$200,000	\$ 0
D. Telecommunication	UPRR	\$ 0	\$30,000	\$ 0
E. Electric	PG&E	\$ 0	\$1,184,000	\$ 0
F. Fiber Optic	AT&T	\$ 0	\$200,000	\$ 0
G. Gas Line	PG&E	\$ 0	\$3,500	\$ 0
H. Gas Line	KINDER MORGAN	\$ 0	\$525,000	\$ 0
I. Cable		\$ 0	\$ 0	\$ 0
J. Municipal Utilities	FMFCD, City, Caltrans	\$ 0	\$70,775	\$ 0
Totals				
Number of facilities – 10		\$ 0	\$2,431,000rd	\$ 0

VIII. **Rail Information**

Are railroad facilities or railroad rights of way affected?

No _____ Yes X (Complete the following)

The proposed project crosses the rail facility in a slightly skewed angle. There is a three span cast-in-place post-tensioned concrete box girder proposed over the UPRR tracks. From east to west, the span lengths are 90', 125', and 90' respectively. At a minimum, a Construction and Maintenance Agreement is required. Potential compensation is unknown until design is formalized. The project lies in the path of the future high speed rail project based on preliminary studies. Impacts are not known at this time.



IX. **Clearance Information**

Are there improvements that require clearance?

No _____ Yes X (Complete the following)

Number of Structures to be demolished 4

Estimated Cost of Demolition \$ 100,000

X. **Hazardous Materials/Waste**

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain hazardous materials? None _____ Yes X (Explain in the "Remarks" section)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain hazardous waste? None _____ Yes X (Explain in the "Remarks" section)

A Phase II Preliminary Site Investigation was performed on critical parcels that are planned for acquisition. Two parcels were determined to have high levels of hazardous materials. The estimated cost to remove the impacted soil is \$15,600.

XI. **Project Scheduling**

	<u>Proposed lead time</u>	<u>Completion date</u>
* Preliminary Engineering, Surveys	<u> 3 </u> (months)	<u>Summer 2013</u>
* R/W Engineering Submittals	<u> 12 </u> (months)	<u>Summer 2014</u>
* R/W Appraisals/Acquisition	<u> 24 </u> (months)	<u>Summer 2019</u>
Proposed Environmental Clearance		<u>March 2013</u>
Proposed R/W Certification		<u>Summer 2019</u>

XII. **Proposed Funding**

	<u>Local</u>	<u>State</u>	<u>Federal</u>	<u>Other</u>
Acquisition	<u>\$ 20,621,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Utilities	<u>\$ 2,431,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Relocation Assistance Program	<u>\$ 500,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Services (Title & Escrow Fees)	<u>\$ 29,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Support Cost (Eng. Appraisals, etc.)	<u>\$ 165,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

XIII. **Remarks:**

None



**BENDER
ROSENTHAL, INC.**
COMMERCIAL VALUATION AND RIGHT OF WAY SERVICES

March 6, 2013
06-FRE-99- 28.88 / 30.11
EA: 06-0H3600
Project ID: 0600000935
Jug Alternative

Project Sponsor Consultant
Prepared by:

Michael E. Lahodny
Bender Rosenthal, Inc.
California Certified General
Appraiser # 044258

3/12/2013
Date

Approved by:

Right of Way Agent
City of Fresno

3/22/2013
Date

Caltrans
Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Public Agency Services
Division of Right of Way

5/20/13
Date



**Right of Way Data Sheet Premise, Assumptions, Limiting Conditions
and Extra Ordinary Assumptions**

Estimate Premise

1. Estimates are forecasts of anticipated costs for properties that will be acquired at a future date. The Current Value was not escalated to the Right of Way Certification date.
2. Estimate requires looking into the future and projecting the anticipated highest and best use of the properties at the time they are required for the project. The estimate will not consider increases in real estate value due to changes in land use resulting from anticipation of the proposed project.
3. The estimate will be developed using appraisal principles without the depth of investigation and verification. The estimate may consider indicators of value which may not be acceptable in appraising.
4. The estimate will consider costs known as Construction Contract Work (CCW) as severance damages and included as compensation to the owner.
5. The estimator has based the estimate on the highest supported anticipated costs and a "worst case" scenario.
6. When in doubt because of inadequate or marginal requirement information, a full acquisition will be assumed.

Assumptions

1. Estimate mapping is assumed to adequately provided information on which partial acquisition and damages are based.
2. The right of way area calculations are assumed to reflect the needs for the project or alternative. Changes in the areas may dramatically impact the estimated right of way costs.

Limiting Conditions

1. Utility locations and information of property rights have not been fully researched and utility costs are based on field observations and cost information provided by others. More accurate costs will be developed as the project approaches selection of final alignment and design. Rights and obligations of parties will be verified and a liability determination will be established. Master agreements with Utility Companies may establish the costs to the owners and project.

Extraordinary Assumptions

1. A contingency factor will be applied at the suggested rate of 25%. This additional estimated cost provides for possible business goodwill claims, outdoor advertising signs, administrative settlements, condemnation awards, utility overruns and interest payments.



To: District Office Chief
R/W Local Public Agency Services

Attention: District Branch Chief
Local Public Agency Services

Subject: **RIGHT OF WAY DATA SHEET- LOCAL PUBLIC AGENCY SERVICES**

Project Description: **SR99/Veterans Boulevard Interchange – Extension**

The information in this data sheet was developed by Edgar Noriega, P.E - Mark Thomas & Company, Inc.

I. **Right of Way Engineering**

Will right of way engineering be required for this project?

No

Yes X

- Hard copy (base map)
- Appraisal map
- Acquisition Documents
- Property Transfer Documents
- R/W Record Map
- Record of Survey

II. **Engineering Surveys**

1. Is any surveying or photogrammetric mapping required?

No Yes X .

2. **Datum Requirements**

Yes X Project will adhere to the following criteria.

- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English units.
- Vertical - datum policy is NAVD 88.
- Units - English is required.

No Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes X

No Provide explanation on additional page.



III. **Parcel Information (Land and Improvements)**

Are there any property rights required within the proposed project limits?

No _____ Yes X (Complete the following)

	Part Take	Full Take	Estimate \$
A. Number of Vacant Land Parcels	<u> 15 </u>	<u> 1 </u>	<u>\$ 2,918,536</u>
B. Number of Single Family Residential Units	<u> 5 </u>	<u> 0 </u>	<u>\$ 696,147</u>
C. Number of Multi-Family Residential Units	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
D. Number of Commercial/Industrial Parcels	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
E. Number of Farm/Agricultural Parcels	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
F. Permanent and/or Temporary Easements	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
G. Other Parcels (define in "Remarks" section)	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
Totals	<u> 20 </u>	<u> 1 </u>	<u>\$ 3,615,000 rd</u>

Right of way acquisition requires partial rights from 21 parcels (based on APN). Of the 21 parcels, 20 parcels are privately owned and one school district parcel. The area consists of generally residential zoned property. Some are improved with residences and some are vacant. The acquisitions areas do not impact the residential improvements but do impact minor site improvements. Fifteen of the parcels include sub parcel acquisitions for slope and/or trail easements. This is a City of Fresno sponsored project.

IV. **Dedications**

Are there any properties rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No X Yes _____ (Complete the following)

V. **Excess Lands / Relinquishments**

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No X Yes _____



VI. **Relocation Information**

Are relocation displacements anticipated?

No X Yes (Complete the following)

VII. **Utility Relocation Information**

Anticipate any utility facilities or utility rights of way to be affected?

No Yes x (Complete the following)

Facility	Owner	Estimated Relocation Expense		
		State Obligation *	Local Obligation	Utility Owner Obligation
A. Telecommunication	AT&T	\$ 0	\$ 10,000	\$ 0
B. Telecommunication	QWEST	\$ 0	\$ 0	\$ 0
C. Telecommunication	SPRINT	\$ 0	\$ 0	\$ 0
D. Telecommunication	UPRR	\$ 0	\$ 0	\$ 0
E. Electric	PG&E	\$ 0	\$ 96,000	\$ 0
F. Fiber Optic	AT&T	\$ 0	\$ 0	\$ 0
G. Gas Line	PG&E	\$ 0	\$ 460,000	\$ 0
H. Gas Line	KINDER MORGAN	\$ 0	\$ 0	\$ 0
I. Cable		\$ 0	\$ 0	\$ 0
J. Municipal Utilities	FMFCD, City, & Caltrans	\$ 0	\$ 101,525	\$ 0
Totals				
Number of facilities – 10		\$ 0	\$ 668,000rd	\$ 0

VIII. **Rail Information**

Are railroad facilities or railroad rights of way affected?

No X Yes (Complete the following)



IX. **Clearance Information**

Are there improvements that require clearance?

No X Yes _____ (Complete the following)

Number of Structures to be demolished 0

Estimated Cost of Demolition \$ 0

X. **Hazardous Materials/Waste**

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain

hazardous materials? None X Yes _____ (Explain in the "Remarks" section)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain

hazardous waste? None X Yes _____ (Explain in the "Remarks" section)

XI. **Project Scheduling**

	<u>Proposed lead time</u>	<u>Completion date</u>
* Preliminary Engineering, Surveys	<u>3 (months)</u>	<u>Summer 2013</u>
* R/W Engineering Submittals	<u>12 (months)</u>	<u>Summer 2014</u>
* R/W Appraisals/Acquisition	<u>24 (months)</u>	<u>Summer 2019</u>
Proposed Environmental Clearance		<u>March 2013</u>
Proposed R/W Certification		<u>Summer 2019</u>

XII. **Proposed Funding**

	<u>Local</u>	<u>State</u>	<u>Federal</u>	<u>Other</u>
Acquisition	<u>\$ 3,615,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Utilities	<u>\$ 668,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Relocation Assistance Program	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Services (Title & Escrow Fees)	<u>\$ 21,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Support Cost (Eng. Appraisals, etc.)	<u>\$ 125,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

III. **Remarks:**

None



**BENDER
ROSENTHAL, INC.**
COMMERCIAL VALUATION AND RIGHT OF WAY SERVICES

March 6, 2013
06-FRE-99- 28.88 / 30.11
EA: 06-0H3600
Project ID: 0600000935
Extension

Project Sponsor Consultant
Prepared by:

Michael E. Lahodny
Bender Rosenthal, Inc.
California Certified General
Appraiser # 044258

3/12/2013
Date

Approved by:

Right of Way Agent
City of Fresno

3/22/2013
Date

Caltrans
Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Public Agency Services
Division of Right of Way

5/20/13
Date



Right of Way Data Sheet Premise, Assumptions, Limiting Conditions and Extra Ordinary Assumptions

Estimate Premise

1. Estimates are forecasts of anticipated costs for properties that will be acquired at a future date. The Current Value was not escalated to the Right of Way Certification date.
2. Estimate requires looking into the future and projecting the anticipated highest and best use of the properties at the time they are required for the project. The estimate will not consider increases in real estate value due to changes in land use resulting from anticipation of the proposed project.
3. The estimate will be developed using appraisal principles without the depth of investigation and verification. The estimate may consider indicators of value which may not be acceptable in appraising.
4. The estimate will consider costs known as Construction Contract Work (CCW) as severance damages and included as compensation to the owner.
5. The estimator has based the estimate on the highest supported anticipated costs and a "worst case" scenario.
6. When in doubt because of inadequate or marginal requirement information, a full acquisition will be assumed.

Assumptions

1. Estimate mapping is assumed to adequately provided information on which partial acquisition and damages are based.
2. The right of way area calculations are assumed to reflect the needs for the project or alternative. Changes in the areas may dramatically impact the estimated right of way costs.

Limiting Conditions

1. Utility locations and information of property rights have not been fully researched and utility costs are based on field observations and cost information provided by others. More accurate costs will be developed as the project approaches selection of final alignment and design. Rights and obligations of parties will be verified and a liability determination will be established. Master agreements with Utility Companies may establish the costs to the owners and project.

Extraordinary Assumptions

1. A contingency factor will be applied at the suggested rate of 25%. This additional estimated cost provides for possible business goodwill claims, outdoor advertising signs, administrative settlements, condemnation awards, utility overruns and interest payments.



To: District Office Chief
R/W Local Public Agency Services

Attention: District Branch Chief
Local Public Agency Services

Subject: **RIGHT OF WAY DATA SHEET- LOCAL PUBLIC AGENCY SERVICES**

Project Description: **SR99/Veterans Boulevard Interchange – Base Alternative**

The information in this data sheet was developed by Edgar Noriega, P.E - Mark Thomas & Company, Inc.

I. **Right of Way Engineering**

Will right of way engineering be required for this project?

No ☐

Yes ☒

- Hard copy (base map)
- Appraisal map
- Acquisition Documents
- Property Transfer Documents
- R/W Record Map
- Record of Survey

II. **Engineering Surveys**

1. Is any surveying or photogrammetric mapping required?

No ☐ Yes ☒

2. **Datum Requirements**

Yes ☒ Project will adhere to the following criteria.

- Horizontal - datum policy is NAD 83, CA-HPGN, EPOCH 1991.35 and English units.
- Vertical - datum policy is NAVD 88.
- Units - English is required.

No ☐ Provide an explanation on additional page.

3. Will land survey monument perpetuation be scoped into the project, if required?

Yes ☒

No ☐ Provide explanation on additional page.



III. **Parcel Information (Land and Improvements)**

Are there any property rights required within the proposed project limits?

No _____ Yes X (Complete the following)

	Part Take	Full Take	Estimate
A. Number of Vacant Land Parcels	<u> 5 </u>	<u> 1 </u>	<u>\$ 5,504,000</u>
B. Number of Single Family Residential Units	<u> 2 </u>	<u> 0 </u>	<u>\$ 2,200</u>
C. Number of Multi-Family Residential Units	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
D. Number of Commercial/Industrial Parcels	<u> 18 </u>	<u> 3 </u>	<u>\$11,420,000</u>
E. Number of Farm/Agricultural Parcels	<u> 0 </u>	<u> 0 </u>	<u>\$ 0</u>
F. Permanent and/or Temporary Easements	<u> 1 </u>	<u> 0 </u>	<u>\$ 125,000</u>
G. Other Parcels (define in "Remarks" section)	<u> 0 </u>	<u> 0 </u>	<u>\$ 875,000</u>
Totals	<u> 26 </u>	<u> 4 </u>	<u>\$ 17,926,000 rd</u>

Right of way acquisition requires rights from 30 parcels (based on APN). Of the 30 parcels, 29 parcels are privately owned and one Union Pacific Railroad parcel (Item F). The area consists of mixed zoning including residential, industrial and commercial. Four parcels are full acquisitions of which two have major improvements. Twelve of the parcels include sub parcels for easements.

Access rights will be required on parcels acquired for the State. Some Outdoor Advertising Structures are in conflict and will need to be relocated (Item G)

IV. **Dedications**

Are there any properties rights which have been acquired, or anticipate will be acquired, through the "dedication" process for the Project?

No X Yes



V. **Excess Lands / Relinquishments**

Are there Caltrans property rights which may become excess lands or potential relinquishment areas?

No X Yes

The City will acquire some excess, but no state excess is anticipated.

VI. **Relocation Information**

Are relocation displacements anticipated?

No Yes X (Complete the following)

A. Number of Single Family Residential Units	<u> 0 </u>	<u> \$ 0 </u>
Estimated RAP Payments		
B. Number of Multi-Family Residential Units	<u> 0 </u>	<u> \$ 0 </u>
Estimated RAP Payments		
C. Number of Business/Nonprofit	<u> 2 </u>	<u> \$ 500,000 </u>
Estimated RAP Payments		
D. Number of Farms	<u> 0 </u>	<u> \$ 0 </u>
Estimated RAP Payments		
E. Other (define in the "Remarks" section)	<u> 0 </u>	<u> \$ 0 </u>
Estimated RAP Payments		
Totals	<u> 2 </u>	<u> \$ 500,000 </u>



VII. Utility Relocation Information

Anticipate any utility facilities or utility rights of way to be affected?

No _____ Yes x (Complete the following)

Facility	Owner	Estimated Relocation Expense		
		State Obligation *	Local Obligation	Utility Owner Obligation
A. Telecommunication	AT&T	\$ 0	\$204,546	\$ 0
B. Telecommunication	QWEST	\$ 0	\$200,000	\$ 0
C. Telecommunication	SPRINT	\$ 0	\$200,000	\$ 0
D. Telecommunication	UPRR	\$ 0	\$30,000	\$ 0
E. Electric	PG&E	\$ 0	\$1,080,000	\$ 0
F. Fiber Optic	AT&T	\$ 0	\$200,000	\$ 0
G. Gas Line	PG&E	\$ 0	\$3,500	\$ 0
H. Gas Line	KINDER MORGAN	\$ 0	\$525,000	\$ 0
I. Cable		\$ 0	\$ 0	\$ 0
J. Municipal Utilities	FMFCD, City, & Caltrans	\$ 0	\$70,775	\$ 0
Totals				
Number of facilities – 10		\$ 0	\$2,514,000rd	\$ 0

VIII. Rail Information

Are railroad facilities or railroad rights of way affected?

No _____ Yes X (Complete the following)

The proposed project crosses the rail facility in a slightly skewed angle. A single span cast-in-place post-tensioned concrete box girder is proposed with a span length of 245'. At a minimum, a Construction and Maintenance Agreement is required. Potential compensation is unknown until design is formalized. The project lies in the path of the future high speed rail project based on preliminary studies. Impacts are not known at this time.



IX. **Clearance Information**

Are there improvements that require clearance?

No _____ Yes X (Complete the following)

Number of Structures to be demolished 4

Estimated Cost of Demolition \$ 100,000

X. **Hazardous Materials/Waste**

Are there any site(s) and/or improvements(s) in the Project Limits that are known to contain

hazardous materials? None _____ Yes X (Explain in the "Remarks" section)

Are there any site(s) and/or improvement(s) in the Project Limits that are suspected to contain

hazardous waste? None _____ Yes X (Explain in the "Remarks" section)

A Phase II Preliminary Site Investigation was performed on critical parcels that are planned for acquisition. Two parcels were determined to have high levels of hazardous materials. The estimated cost to remove the impacted soil is \$15,600.

XI. **Project Scheduling**

	<u>Proposed lead time</u>	<u>Completion date</u>
* Preliminary Engineering, Surveys	<u> 3 </u> (months)	<u>Summer 2013</u>
* R/W Engineering Submittals	<u> 12 </u> (months)	<u>Summer 2014</u>
* R/W Appraisals/Acquisition	<u> 24 </u> (months)	<u>Summer 2019</u>
Proposed Environmental Clearance		<u>March 2013</u>
Proposed R/W Certification		<u>Summer 2019</u>

XII. **Proposed Funding**

	<u>Local</u>	<u>State</u>	<u>Federal</u>	<u>Other</u>
Acquisition	<u>\$ 17,926,200</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Utilities	<u>\$ 2,514,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
Relocation Assistance Program	<u>\$ 500,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Services (Title & Escrow Fees)	<u>\$ 29,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>
R/W Support Cost (Eng. Appraisals, etc.)	<u>\$ 165,000</u>	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 0</u>

XIII. **Remarks:**

None



**BENDER
ROSENTHAL, INC.**
COMMERCIAL VALUATION AND RIGHT OF WAY SERVICES

March 6, 2013
06-FRE-99- 28.88 / 30.11
EA: 06-0H360
Project ID: 0600000935
Base Alternative

Project Sponsor Consultant
Prepared by:

Michael E. Lahodny
Bender Rosenthal, Inc.
California Certified General
Appraiser # 044258

3/12/2013
Date

Approved by:

Right of Way Agent
City of Fresno

3/22/2013
Date

Caltrans

Reviewed and approved based on information provided to date:

Caltrans District Branch Chief
Local Public Agency Services
Division of Right of Way

5/20/13
Date



Right of Way Data Sheet Premise, Assumptions, Limiting Conditions and Extra Ordinary Assumptions

Estimate Premise

1. Estimates are forecasts of anticipated costs for properties that will be acquired at a future date. The Current Value was not escalated to the Right of Way Certification date.
2. Estimate requires looking into the future and projecting the anticipated highest and best use of the properties at the time they are required for the project. The estimate will not consider increases in real estate value due to changes in land use resulting from anticipation of the proposed project.
3. The estimate will be developed using appraisal principles without the depth of investigation and verification. The estimate may consider indicators of value which may not be acceptable in appraising.
4. The estimate will consider costs known as Construction Contract Work (CCW) as severance damages and included as compensation to the owner.
5. The estimator has based the estimate on the highest supported anticipated costs and a "worst case" scenario.
6. When in doubt because of inadequate or marginal requirement information, a full acquisition will be assumed.

Assumptions

1. Estimate mapping is assumed to adequately provided information on which partial acquisition and damages are based.
2. The right of way area calculations are assumed to reflect the needs for the project or alternative. Changes in the areas may dramatically impact the estimated right of way costs.

Limiting Conditions

1. Utility locations and information of property rights have not been fully researched and utility costs are based on field observations and cost information provided by others. More accurate costs will be developed as the project approaches selection of final alignment and design. Rights and obligations of parties will be verified and a liability determination will be established. Master agreements with Utility Companies may establish the costs to the owners and project.

Extraordinary Assumptions

1. A contingency factor will be applied at the suggested rate of 25%. This additional estimated cost provides for possible business goodwill claims, outdoor advertising signs, administrative settlements, condemnation awards, utility overruns and interest payments.

APPENDIX J

RIGHT OF WAY DATA SHEETS

UTILITY INFORMATION SHEETS

UTILITY CONFLICT SUMMARY

APPENDIX J - UTILITY CONFLICT SUMMARY							
(BASE ALTERNATIVE, V LINE STA 81+25 TO STA 123+00)							
CONFLICT NUMBER	CONFLICT	OWNER	Item	QUANTITY	UNITS	UNIT COST	COST
1	RAISE OVERHEAD PG&E ELECTRICAL LINE	PG&E	Raise PGE Tower	1	LS	\$1,000,000	\$1,000,000
2	RELOCATE OVERHEAD PG&E ELECTRICAL	PG&E	Relocate Powerpole	10	EA	\$8,000	\$80,000
			Relocate Power Line	3605	LF	\$0	\$0
3	RELOCATE QWEST FIBER OPTIC	QWEST	Potential FMFCD Conflict	1	LS	\$200,000	\$200,000
4	RELOCATE SPRINT FIBER OPTIC	SPRINT	Potential FMFCD Conflict	1	LS	\$200,000	\$200,000
5	RELOCATE AT&T FIBER OPTIC	AT&T	Fiber Optic Conduit	1	LS	\$200,000	\$200,000
6	RELOCATE STREET LIGHTING	CITY OF FRESNO	Relocate Street Light	2	EA	\$8,000	\$16,000
			Relocate UG Conduit	200	LF	\$10	\$2,000
7	REMOVE AT&T COMMUNICATION CABLE	AT&T	UG Comm Line	4546	LF	\$1	\$4,546
8	12 IN. KINDER MORGAN GAS LINE	KINDER MORGAN	Monitoring & Inspection	1000	LF	\$525	\$525,000
9	ADJUST SANITARY SEWER MANHOLE TO GRADE	CITY OF FRESNO	Adjust to Grade	4	EA	\$2,000	\$8,000
10	FMFCD IMPROVEMENTS	FMFCD	Adjust to Grade - 48" Manhole	2	EA	\$1,000	\$2,000
			Relocate - SD Inlet	2	EA	\$500	\$1,000
			Install SD Pipe	435	LF	\$15	\$6,525
11	RELOCATE 4 IN. GAS LINE	PG&E	4" GAS	175	LF	\$20	\$3,500
13	EXTEND CALTRANS STORM DRAIN LINE	CALTRANS	SD Line	235	LF	\$150	\$35,250
15	RELOCATE OVERHEAD UPRR COMMUNICATION LINE	UPRR	Potential conflict with Structure or falsework	2	EA	\$15,000	\$30,000
17	RELOCATE AT&T COMMUNICATION CABLE	AT&T	Potential FMFCD Conflict	1	LS	\$200,000	\$200,000
						Total	\$2,513,821.00

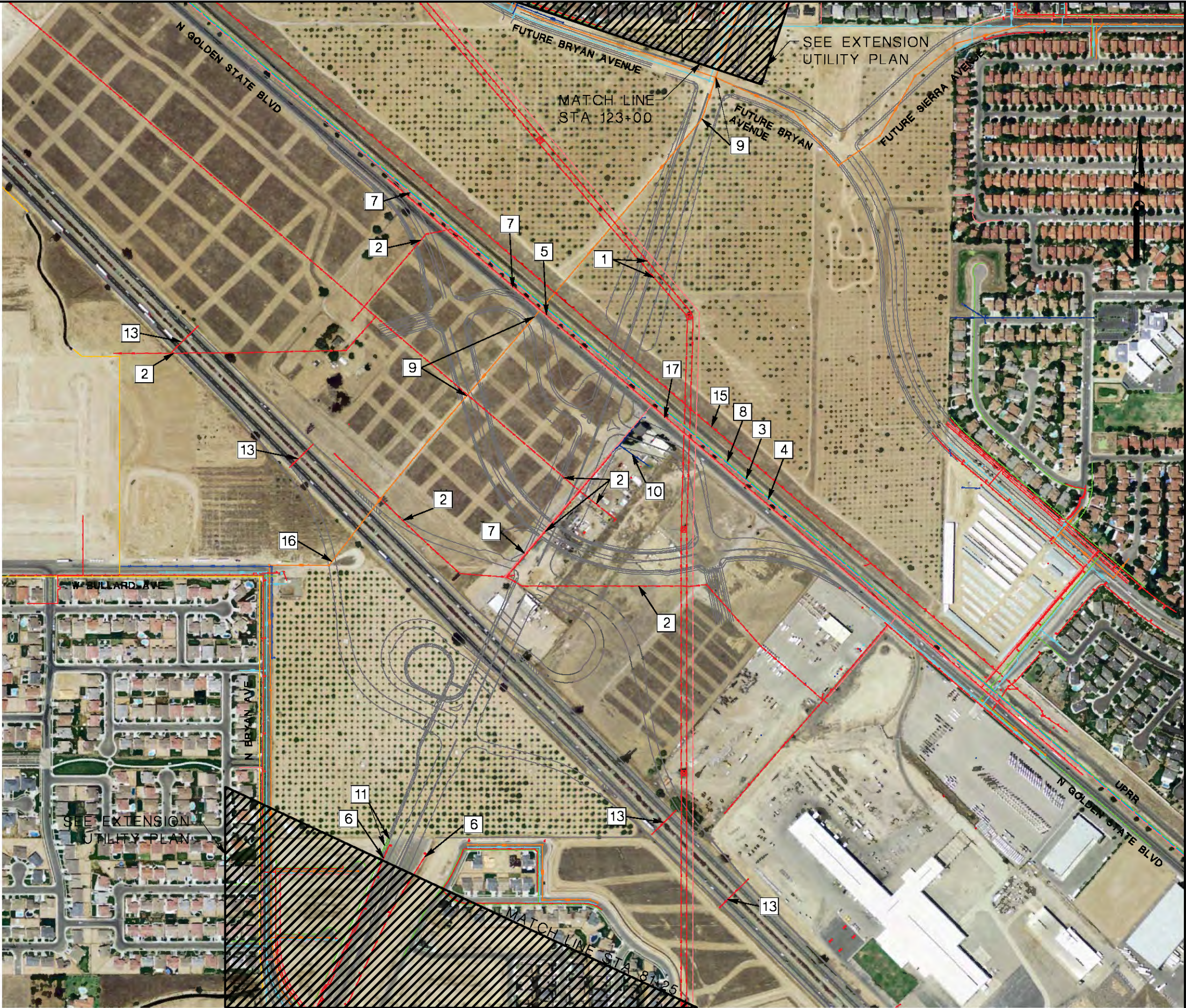
APPENDIX J - UTILITY CONFLICT SUMMARY							
(EXTENSION, V LINE: Shaw Avenue to STA 81+25; STA 123+00 to Herndon Avenue)							
CONFLICT NUMBER	CONFLICT	OWNER	Item	QUANTITY	UNITS	UNIT COST	COST
2	RELOCATE OVERHEAD PG&E ELECTRICAL	PG&E	Relocate Powerpole	12	EA	\$8,000	\$96,000
			Relocate Power Line	2825	LF		\$0
	RELOCATE PG&E GAS LINE	PG&e	Relocate gas line in Shaw	1150	LF	\$400	\$460,000
6	RELOCATE STREET LIGHTING	CITY OF FRESNO	Relocate Street Light	6	EA	\$8,000	\$48,000
			Relocate UG Conduit	505	LF	\$10	\$5,050
9	ADJUST SANITARY SEWER MANHOLE TO GRADE	CITY OF FRESNO	Adjust to Grade	10	EA	\$2,000	\$20,000
10	FMFCD IMPROVEMENTS	FMFCD	Adjust to Grade - 48" Manhole	11	EA	\$1,000	\$11,000
			Adjust to Grade - 72" Manhole	1	EA	\$1,200	\$1,200
			Relocate - SD Inlet	8	EA	\$500	\$4,000
			Install 15"SD	265	LF	\$15	\$3,975
			Install 18"SD	20	LF	\$15	\$300
12	RELOCATE WATER LINE	CITY OF FRESNO	Potential Ped Undercrossing	100	LF	\$0	\$0
14	RELOCATE FIRE HYDRANT	CITY OF FRESNO	Relocate FH	4	EA	\$2,000	\$8,000
16	RELOCATE SANITARY SEWER LINE	CITY OF FRESNO	Potential Ped Crossing Conflict	1	LS	\$0	\$0
17	RELOCATE AT&T COMMUNICATION CABLE	AT&T	OH at Shaw	1	LS	\$10,000	\$10,000
						Total	\$667,525

APPENDIX J - UTILITY CONFLICT SUMMARY							
(JUG HANDLE ALTERNATIVE, V LINE STA 81+25 TO STA 123+00)							
CONFLICT NUMBER	CONFLICT	OWNER	Item	QUANTITY	UNITS	UNIT COST	COST
1	RAISE OVERHEAD PG&E ELECTRICAL LINE	PG&E	Raise PGE Tower	1	LS	1,000,000	\$1,000,000
2	RELOCATE OVERHEAD PG&E ELECTRICAL	PG&E	Relocate Powerpole	23	EA	8000	\$184,000
			Relocate Power Line	4385	LF		\$0
3	RELOCATE QWEST FIBER OPTIC	QWEST	Potential FMFCD Conflict	1	LS	200000	\$200,000
4	RELOCATE SPRINT FIBER OPTIC	SPRINT	Potential FMFCD Conflict	1	LS	200000	\$200,000
5	RELOCATE AT&T FIBER OPTIC	AT&T	Fiber Optic Conduit	1	LS	200000	\$200,000
6	RELOCATE STREET LIGHTING	CITY OF FRESNO	Relocate Street Light	2	EA	8000	\$16,000
			Relocate UG Conduit	200	LF	10	\$2,000
7	REMOVE AT&T COMMUNICATION CABLE	AT&T	UG Comm Line	1400	LF	1	\$1,400
8	12 IN. KINDER MORGAN GAS LINE	KINDER MORGAN	Monitoring & Inspection	1000	If	525	\$525,000
9	ADJUST SANITARY SEWER MANHOLE TO GRADE	CITY OF FRESNO	Adjust to Grade	4	EA	2000	\$8,000
10	FMFCD IMPROVEMENTS	FMFCD	Adjust to Grade - 48" Manhole	2	EA	1000	\$2,000
			Relocate - SD Inlet	2	EA	500	\$1,000
			Install SD Pipe	435	LF	15	\$6,525
11	RELOCATE 4 IN. GAS LINE	PG&E	4" GAS	175	LF	20	\$3,500
13	EXTEND CALTRANS STORM DRAIN LINE	CALTRANS	SD Line	235	LF	150	\$35,250
15	RELOCATE OVERHEAD UPRR COMMUNICATION LINE	UPRR	Potential conflict with Structure or falsework	2	EA	15000	\$30,000
17	RELOCATE AT&T COMMUNICATION LINE	AT&T	Potential FMFCD Conflict	1	LS	200000	\$200,000
						Total	\$2,614,675

UTILITY INFORMATION SHEETS

JUG HANDLE ALTERNATIVE

- 1 RAISE OVERHEAD PG&E ELECTRICAL LINE
- 2 RELOCATE OVERHEAD PG&E ELECTRICAL
- 3 RELOCATE QWEST FIBER OPTIC
- 4 RELOCATE SPRINT FIBER OPTIC
- 5 RELOCATE AT&T FIBER OPTIC
- 6 RELOCATE STREET LIGHTING
- 7 REMOVE AT&T COMMUNICATION CABLE
- 8 12 IN. KINDER MORGAN GAS LINE
- 9 ADJUST SANITARY SEWER MANHOLE TO GRADE
- 10 FMFCD IMPROVEMENTS
- 11 RELOCATE 4 IN. GAS LINE
- 12 RELOCATE WATER LINE
- 13 EXTEND CALTRANS STORM DRAIN LINE
- 14 RELOCATE FIRE HYDRANT
- 15 RELOCATE OVERHEAD UPRR COMMUNICATION LINES
- 16 RELOCATE SANITARY SEWER LINE
- 17 RELOCATE AT&T COMMUNICATION CABLE

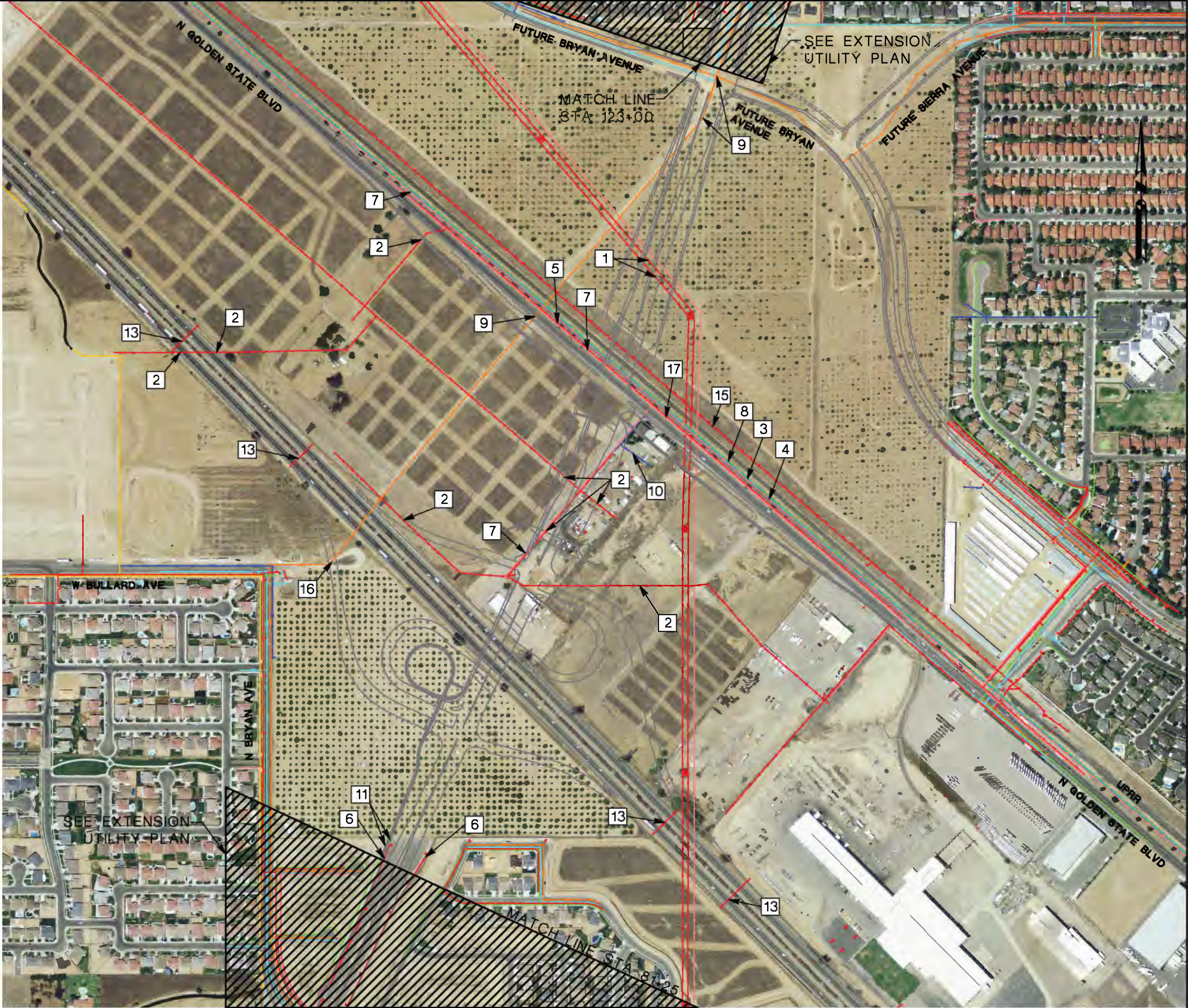


VICINITY MAP
SCALE: 1"=500'

UTILITY INFORMATION SHEETS

BASE ALTERNATIVE

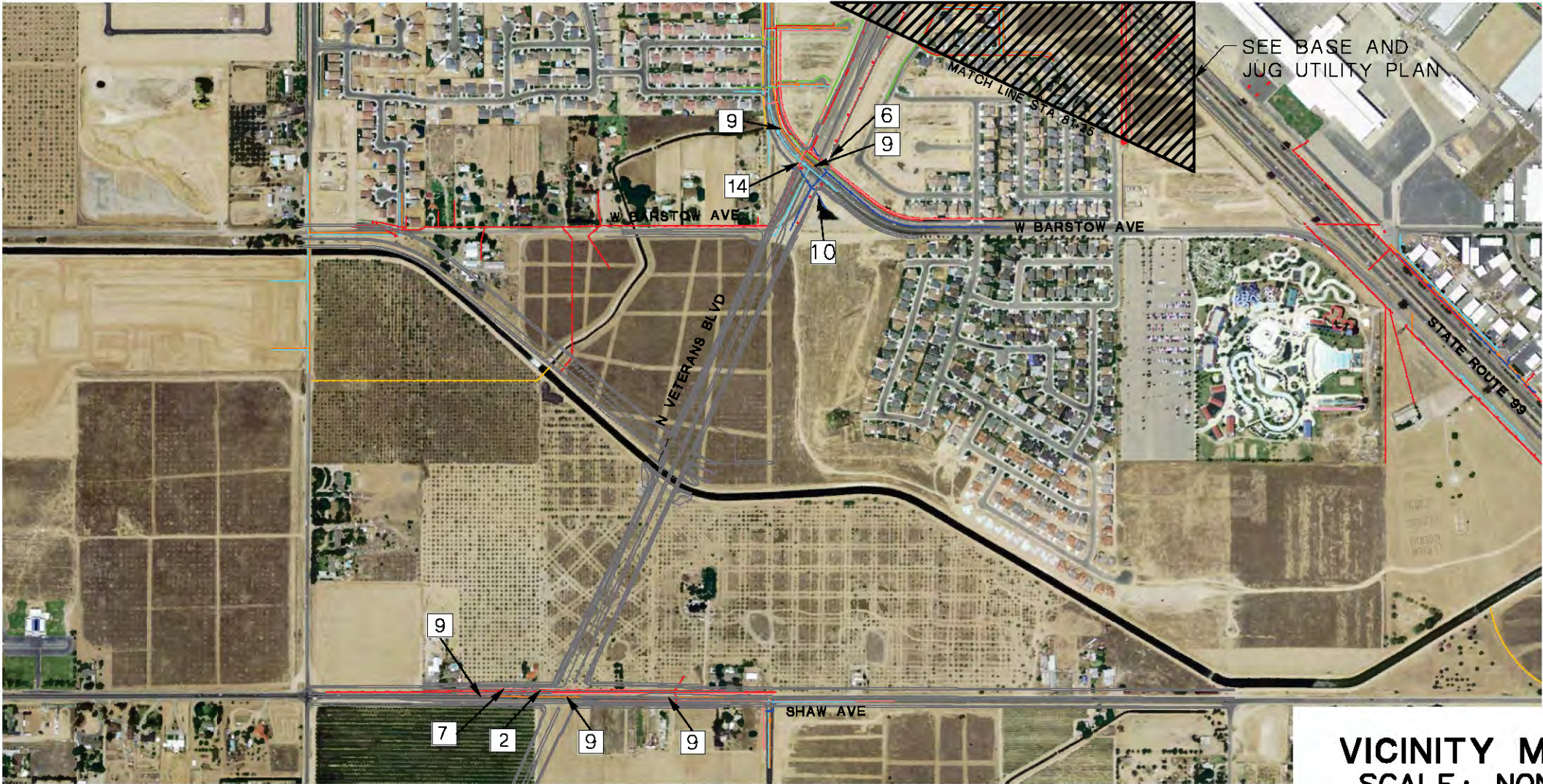
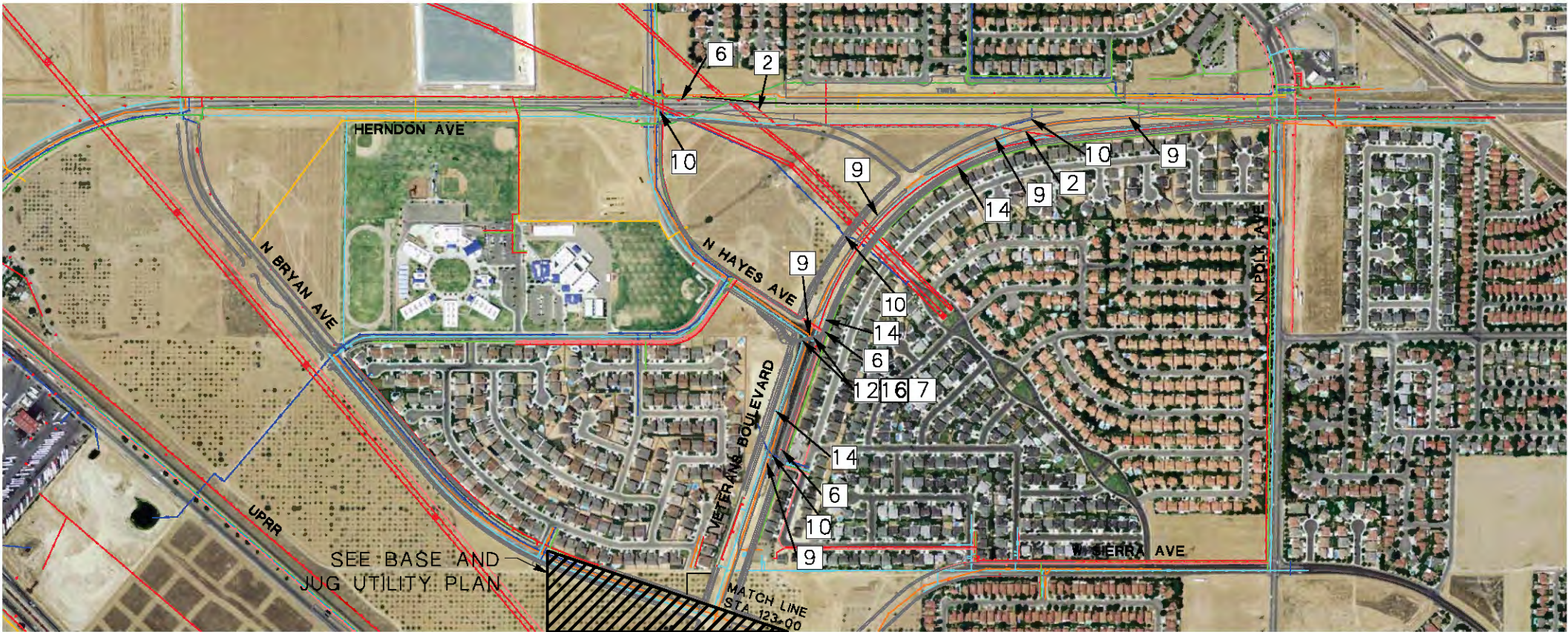
- 1 RAISE OVERHEAD PG&E ELECTRICAL LINE
- 2 RELOCATE OVERHEAD PG&E ELECTRICAL
- 3 RELOCATE QWEST FIBER OPTIC
- 4 RELOCATE SPRINT FIBER OPTIC
- 5 RELOCATE AT&T FIBER OPTIC
- 6 RELOCATE STREET LIGHTING
- 7 REMOVE AT&T COMMUNICATION CABLE
- 8 12 IN. KINDER MORGAN GAS LINE
- 9 ADJUST SANITARY SEWER MANHOLE TO GRADE
- 10 FMFCD IMPROVEMENTS
- 11 RELOCATE 4 IN. GAS LINE
- 12 RELOCATE WATER LINE
- 13 EXTEND CALTRANS STORM DRAIN LINE
- 14 RELOCATE FIRE HYDRANT
- 15 RELOCATE OVERHEAD UPRR COMMUNICATION LINES
- 16 RELOCATE SANITARY SEWER LINE
- 17 RELOCATE AT&T COMMUNICATION CABLE



VICINITY MAP
SCALE: 1"=500'

UTILITY INFORMATION SHEETS EXTENSION

- 1 RAISE OVERHEAD PG&E ELECTRICAL LINE
- 2 RELOCATE OVERHEAD PG&E ELECTRICAL
- 3 RELOCATE QWEST FIBER OPTIC
- 4 RELOCATE SPRINT FIBER OPTIC
- 5 RELOCATE AT&T FIBER OPTIC
- 6 RELOCATE STREET LIGHTING
- 7 REMOVE AT&T COMMUNICATION CABLE
- 8 12 IN. KINDER MORGAN GAS LINE
- 9 ADJUST SANITARY SEWER MANHOLE TO GRADE
- 10 FMFCD IMPROVEMENTS
- 11 RELOCATE 4 IN. GAS LINE
- 12 RELOCATE WATER LINE
- 13 EXTEND CALTRANS STORM DRAIN LINE
- 14 RELOCATE FIRE HYDRANT
- 15 RELOCATE OVERHEAD UPRR COMMUNICATION LINES
- 16 RELOCATE SANITARY SEWER LINE
- 17 RELOCATE AT&T COMMUNICATION CABLE

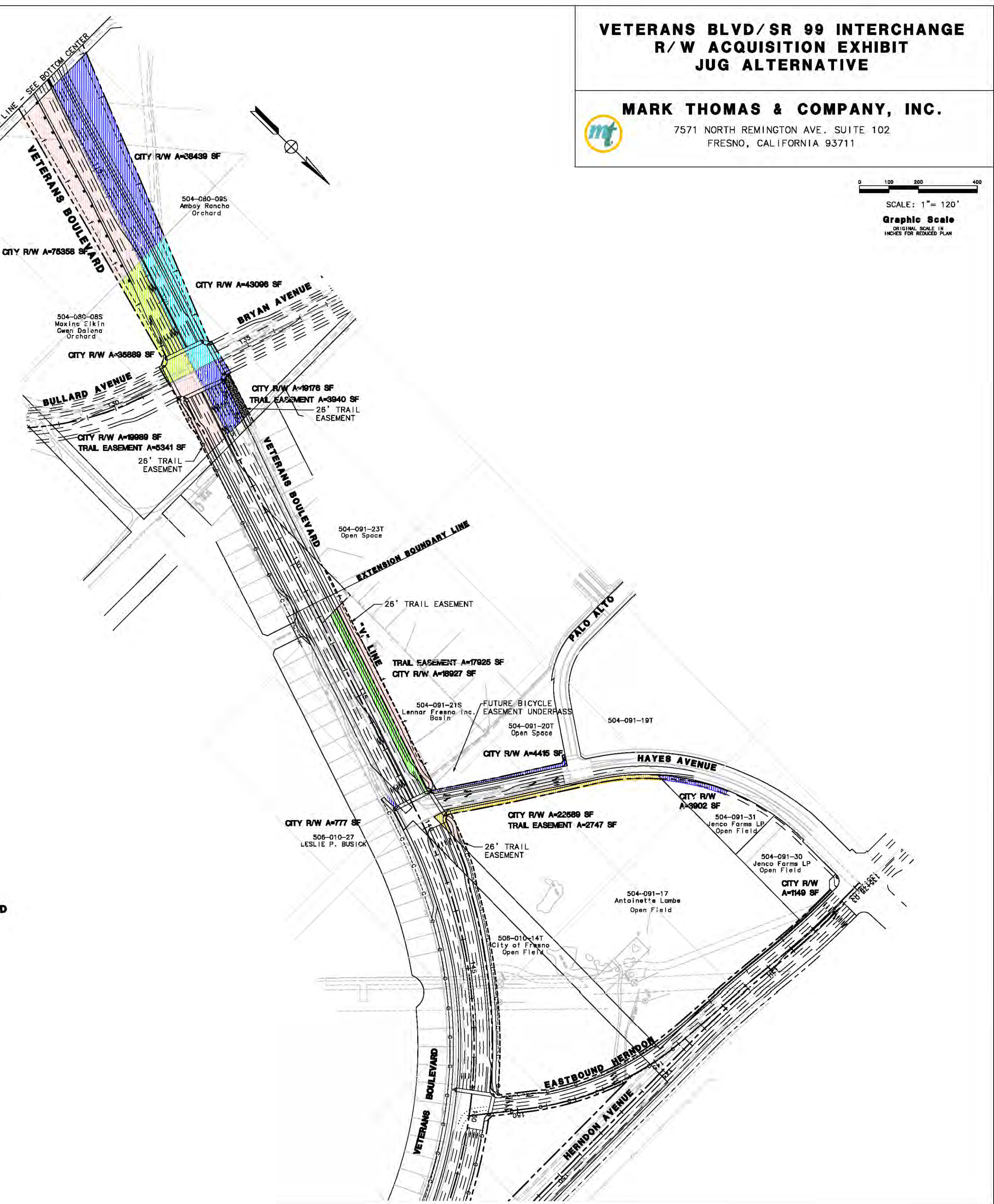
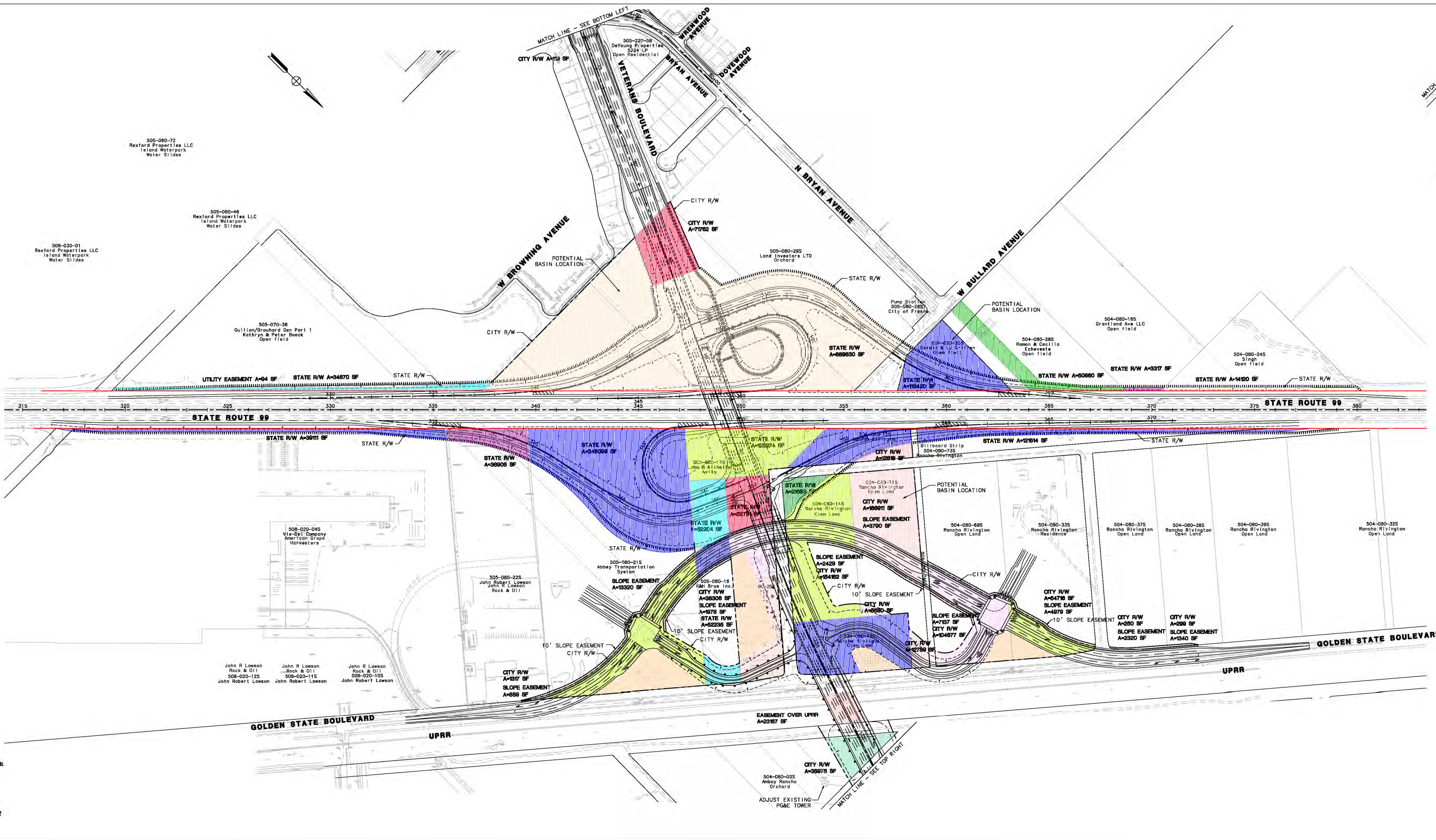
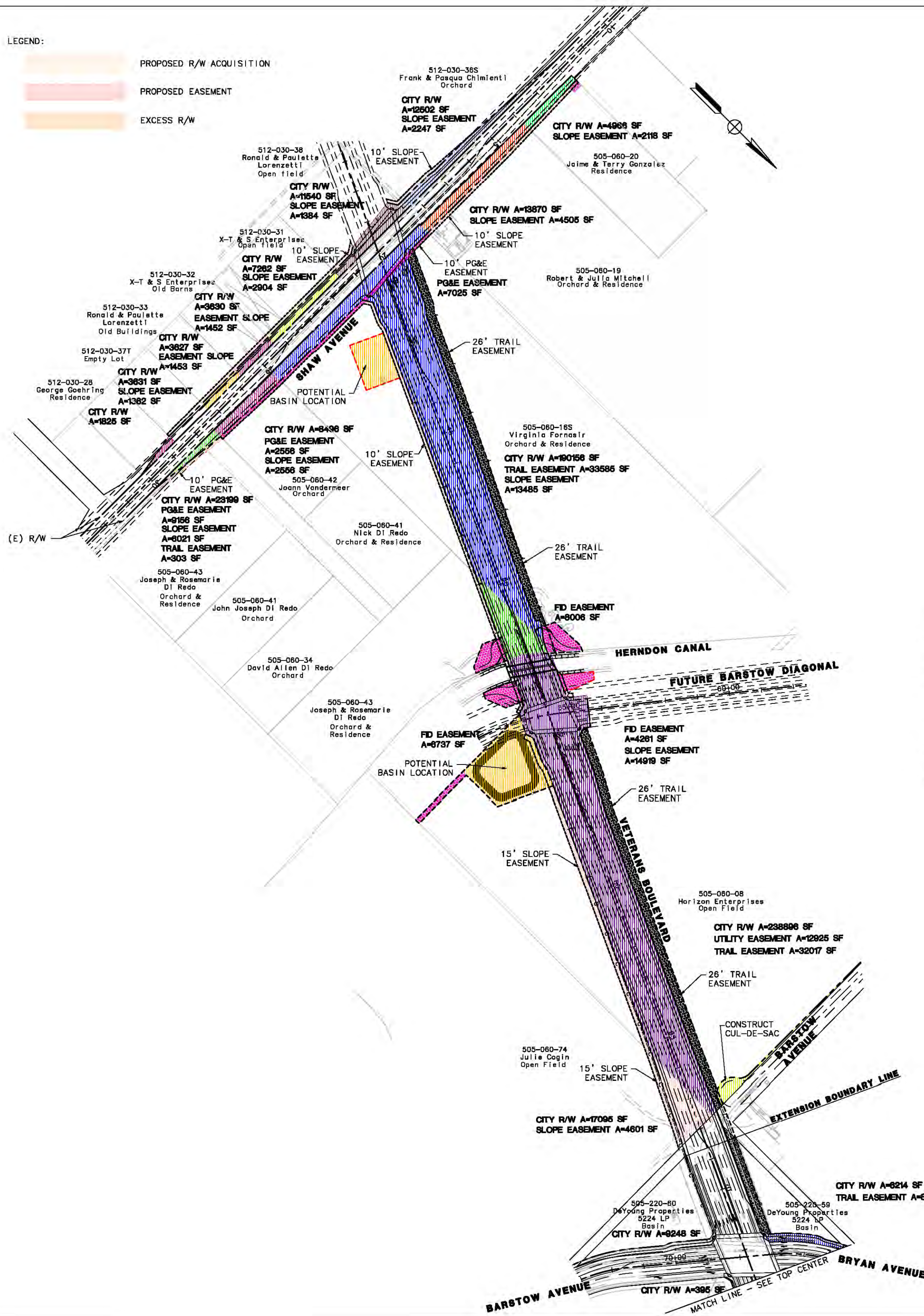


APPENDIX K

RIGHT OF WAY ACQUISITION EXHIBITS

LEGEND:

- PROPOSED R/W ACQUISITION
- PROPOSED EASEMENT
- EXCESS R/W



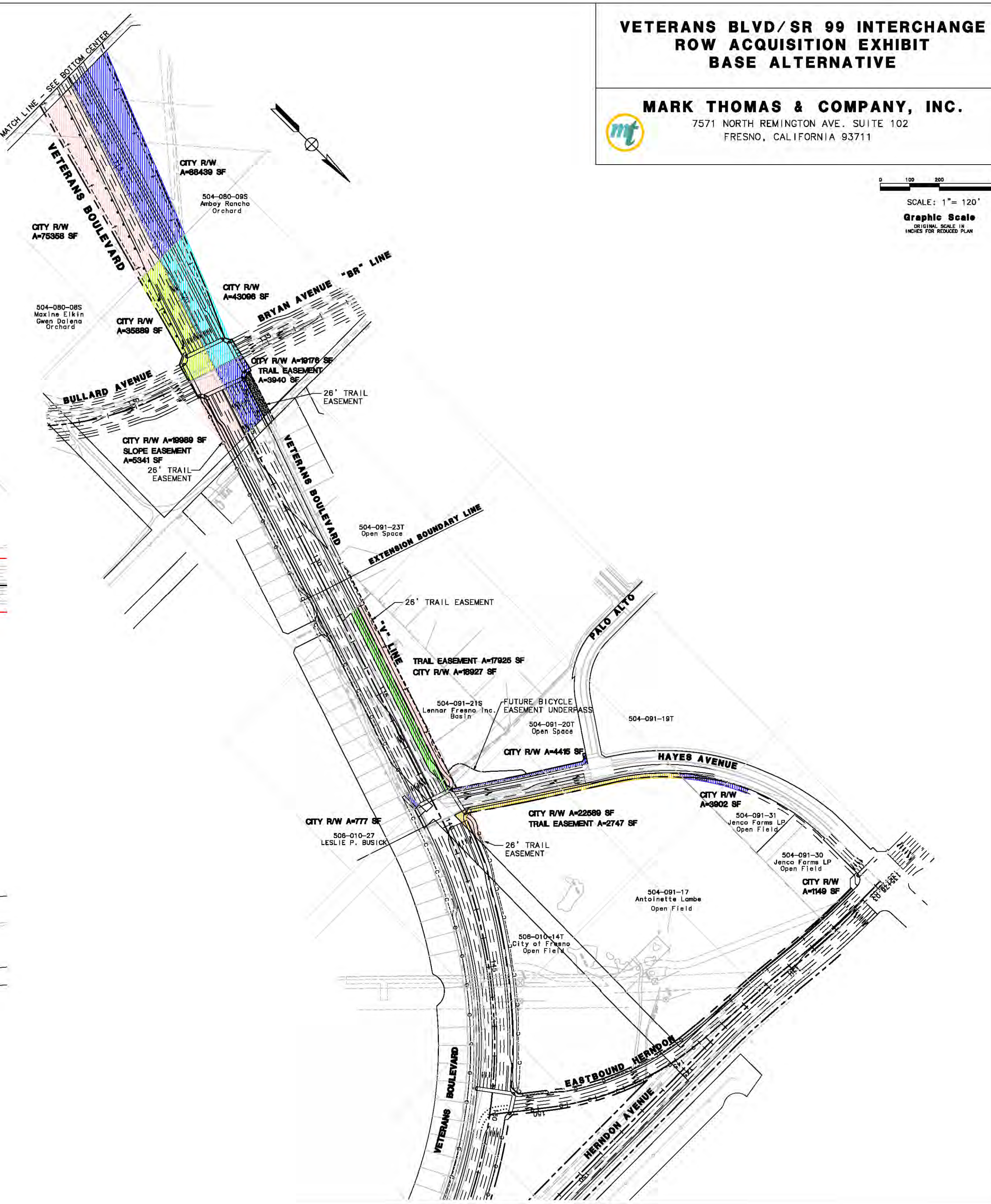
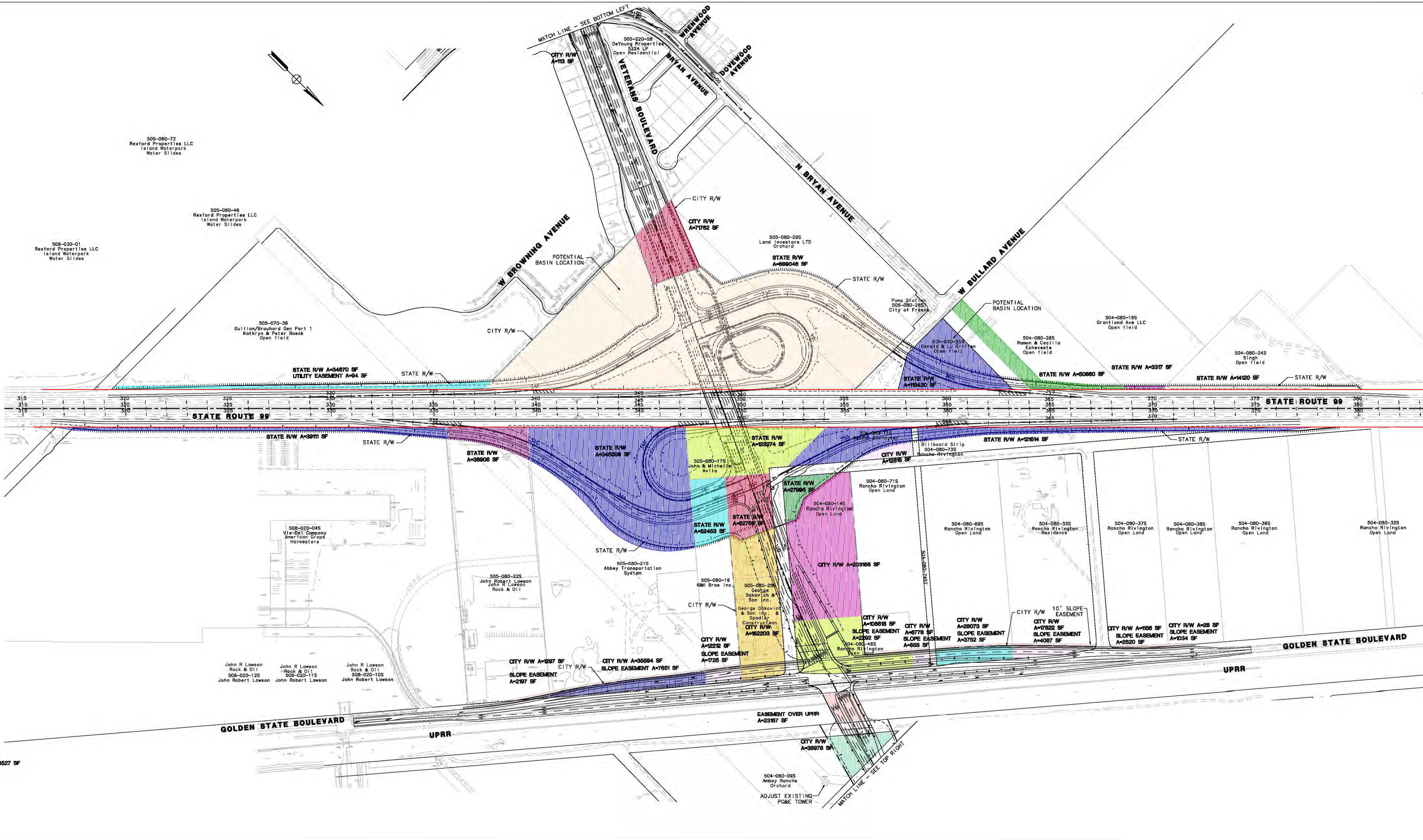
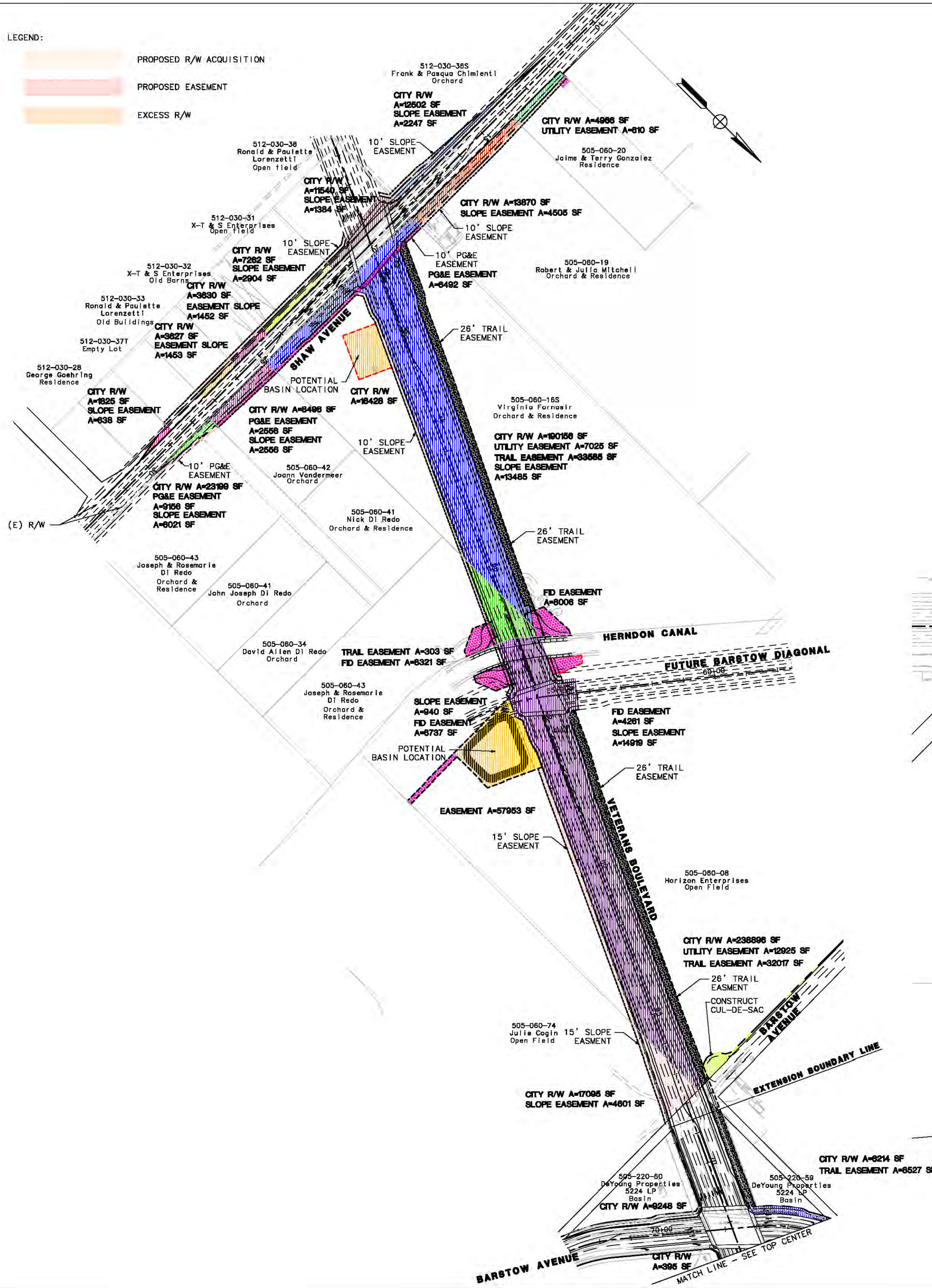
VETERANS BLVD/SR 99 INTERCHANGE
R/W ACQUISITION EXHIBIT
JUG ALTERNATIVE

MARK THOMAS & COMPANY, INC.
7571 NORTH REMINGTON AVE. SUITE 102
FRESNO, CALIFORNIA 93711

SCALE: 1" = 120'
GRAPHIC SCALE
INCHES FOR HORIZONTAL
FOOT FOR VERTICAL

LEGEND:

- PROPOSED R/W ACQUISITION
- PROPOSED EASEMENT
- EXCESS R/W



VETERANS BLVD/SR 99 INTERCHANGE
ROW ACQUISITION EXHIBIT
BASE ALTERNATIVE

MARK THOMAS & COMPANY, INC.
7571 NORTH REMINGTON AVE., SUITE 102
FRESNO, CALIFORNIA 93711



SCALE: 1" = 120'
GRAPHIC SCALE
INCHES FOR HORIZONTAL
FEET FOR VERTICAL

APPENDIX L

STORM WATER DATA REPORT

(Cover Page)

Long Form - Storm Water Data Report



Dist-County-Route: 06-Fre-99
 Post Mile Limits: 28.9/30.1
 Project Type: New Interchange
 Project ID (or EA): 0600000935/06-0H360
 Program Identification: Measure C/Program 400.000
 Phase: ☐ PID
 ☒ PA/ED
 ☐ PS&E

Regional Water Quality Control Board(s): Central Valley, Region 5, Fresno Office

Is the Project required to consider Treatment BMPs? Yes ☐ No ☒
 If yes, can Treatment BMPs be incorporated into the project? Yes ☐ No ☐

If No, a Technical Data Report must be submitted to the RWQCB
 at least 30 days prior to the projects RTL date. List RTL Date: _____

Total Disturbed Soil Area: 45.4 acres Risk Level: 1
 Estimated: Construction Start Date: August 1, 2015 Construction Completion Date: July 1, 2017
 Notification of Construction (NOC) Date to be submitted: July 1, 2015

Erosivity Waiver Yes ☐ Date: _____ No ☒
 Notification of ADL reuse (if Yes, provide date) Yes ☐ Date: _____ No ☒
 Separate Dewatering Permit (if yes, permit number) Yes ☐ Permit # TBD No ☐

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

[Signature] 2013-03-18
 Ed Noriega, Registered Project Engineer Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

[Signature] 3-19-13
 Jim Bane, Project Manager Date

[Signature] 4/18/2013
 Bill Moses, Designated Maintenance Representative Date

[Signature] 4/23/2013
 Brad Cole, Designated Landscape Architect Representative Date

[Signature] 4/30/2013
 Marissa Nishikawa, District/Regional Design SW Coordinator Date

[Stamp Required for PS&E only]



APPENDIX M

TRANSPORTATION MANAGEMENT PLAN DATA SHEET

Department of Transportation
District 6

TRANSPORTATION MANAGEMENT PLAN DATA SHEET

06-Fre 99-PM 28.1/30.9

**VETERANS BOULEVARD INTERCHANGE AND
GRADE SEPARATION PROJECT**

PROJ. ID/EA NO: 06 – 0600000935/0H3600

February 16, 2011

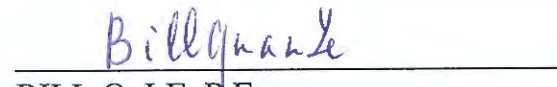
Prepared For: DAVID FRANKE, Design Senior
Office of Design I, Branch G

Prepared By: BILL LE

Concurred By:

Approved By:


BENJAMIN C. CAMARENA
District 6 – District Traffic Manager


BILL Q. LE, P.E.
District 6 – TMP Manager

This Transportation Management Plan (TMP) data sheet is prepared in response to a request from Office of Design I, Branch G dated February 1, 2011.

Attached is the TMP Data Sheet for the above referenced project. Per Deputy Directive 60, TMP must be considered at the early stage of all projects and activities performed on the State Highway System. The following items shall be included in the project initiation document (PID):

- 1) The TMP Data Sheet shall be attached to the project initiation document (PID).
- 2) Any costs associated with the traffic impact mitigation measures listed in the TMP Data Sheet shall be included in the PID estimate.
- 3) The following statements shall be included in the body of the PID:
“Preliminary traffic impacts and mitigation for this project have been outlined in the attached Transportation Management Plan Data Sheet (TMP Data Sheet). Costs

associated with the traffic impact mitigation measures listed in the TMP Data Sheet have been included in this documents estimate.”

“A TMP for this project is required and should be requested when the design is complete enough to determine specific traffic impacts, but yet early enough to make design changes/additions required for traffic mitigation.”

“Lane closure charts and detailed TMP will be provided during PS&E stage.”

“Lane closures are not allowed when the traffic volume is beyond the capacity of the remaining lanes. Local road closures and nighttime work outside peak hours are anticipated for this project.”

If you have any questions, please contact me at 559-444-2492.

Attachments:

- TMP Data Sheet

DISTRICT 6 - TRANSPORTATION MANAGEMENT PLAN

DATA SHEET

(TMP Elements and Costs)

CO/RTE/PM	FRE	99	PM	28.1/30.9	EA	06-0H3600
PROJECT NAME	Veterans Boulevard Interchange and Grade Separation Project					
PROJECT LIMIT	In Fresno County in Fresno on Route 99 from Shaw Avenue OC (PM 28.1) to Herndon Avenue OC (PM 30.9)					
PROJECT DESCRIPTION	New freeway connection on Route 99 in Fresno County 1 mile south of the Herndon/Grantland Interchange and 1 mile north of the Shaw Avenue Interchange					

- A) **The project includes the following:**
(Check all that applicable type of facility closures.)

- | | |
|--|---|
| ☒ Highway or Freeway Lanes | ☐ Freeway Off-ramps |
| ☒ Highway or Freeway Shoulders | ☐ Freeway On-ramps |
| ☐ Freeway Connectors | ☒ Local Streets |

- B) **Are there any construction strategies that can restore existing number of lanes?**
☒ No ☐ Yes (Check all applicable strategies.)

- | | | | |
|---|---|------------------------------|--|
| ☐ Temporary Roadway Widening | ☐ Structure Involvement? | ☐ Yes | ☐ No (If yes, notify Project Manager) |
| ☐ Lane Restriping (Temporary narrow lane widths) | | | |
| ☐ Roadway Realignment (Detour around work area) | | | |
| ☐ Median and/or Right Shoulder Utilization | | | |
| ☐ Use of HOV lane as Temporary Mixed Flow Lane | | | |
| ☐ Staging Alternatives (Explain Below) | | | |

- C) **Calculated Delay**
(To be performed if construction strategies in Item B do not mitigate congestion resulting from Item A or on all projects along Interstate 5 and Route 99)

- | | | |
|--|--|-----------|
| 1. Estimated Maximum Individual delay | <div style="border: 1px solid black; width: 100px; height: 15px;"></div> | minutes |
| 2. Existing or Acceptable Individual Vehicle Delay | <div style="border: 1px solid black; width: 100px; height: 15px;"></div> | minutes |
| 3. Estimated Individual Vehicle Delay Requiring Mitigation | <div style="border: 1px solid black; width: 100px; height: 15px;"></div> | minutes |
| 4. Estimate Delay Cost (Most Applicable) | | |
| ☐ Extended Weekend Closure | | |
| ☐ Weekly (7 days) | | |
| 5. Estimated Duration of Project Related Delays | <div style="border: 1px solid black; width: 100px; height: 15px;"></div> | # of Days |
| 6. Cost of Construction Related delays | <div style="border: 1px solid black; width: 100px; height: 15px;"></div> | |

TMP Estimates based on X-Number of Working Days
 requiring Lane/Shoulder/Ramp/Freeway/Highway Closures: 162 Working Days

TMP DATASHEET

PAGE 2 OF 2

Date: February 16, 2011

Design Senior: David Franke

Branch: G

Office of Design: I

Cnty/Rte: FRE
PM 28.1 30.9
EA 06-0H3600

99

D) Preliminary TMP Elements and cost: (Identify all elements and estimated costs that will be used to mitigate congestion resulting from the proposed construction activities.)

1. Public Information - Bees # 066063		4. Construction Strategies (In Addition to Elements Identified on Item B)	
☒ Brochures & Mailers	\$6,000	☐ Two-way Traffic On One Side	
☒ Press Release/Media Alerts	\$10,000	☐ Reversible Lanes	
☒ Paid Advertisements	\$24,000	☐ Ramp/Connector Closure	
☐ Public Information Center/Kiosks		☒ Night Work	\$0
☒ Telephone Hotline	\$1,000	☐ Extended Weekend Work	
☐ Planned Lane Closure Website		☐ Ped/Bicycle Access Improvements	
☐ Project Website		☐ Maintain Business Access	
☒ Pubic Meetings	\$1,000	☐ A + B Bidding	
☒ Freight Travel Information	\$0	☐ Innovative Const. Techniques	
2. Motorist Information Strategies		☐ Coordination w/ Adj. Const. Site	
☒ Traffic Radio Announcements	\$0	☐ Speed Limit Reduction	
☐ Fixed CMS		☐ Traffic Screens	
☒ Portable CMS BEES 128650	\$57,000	5. Demand Management	
☐ Temporary Motorist Information Signs		☐ HOV Lane/Ramps	
☐ Ground Mounte Signs (Detour)		☐ Variable Work Hours	
☐ Dynamic Speed Message Sign		☐ Telecommuting	
☐ Highway Advisory Radio	\$0	☐ Truck/Heavy Vehicle Restrictions	
☒ CT Hwy Infom. Network (CHIN)		☐ Rideshare Promotions	
3. Incident Management		☐ Ramp Metering	
☒ Transportation Management Center	\$0	☐ Transit Incentives	
☐ Traffic Management Team (TMT)		☐ Shuttle Services	
☐ Intelligent Transportation Systems		☐ Ridesharing/Carpooling Incentives	
☐ Traff. Surveillance (Loop & CCTV)		☐ Park & Ride Promotion	
☐ Helicopter Surveillance		6. Alternative Route Strategies	
☐ Tow/Freeway		☐ Off-site Detours/Use of Alt. Rtes	
☒ COZEEP BEES 066062	\$303,000	☐ Signal Timing/Coord. Improvements	
4. Construction Strategies (In Addition to Elements Identified on Item B)		☐ Temporary Traffic Signals	
☒ Lane Requirement Chart	\$0	☐ Signal Retiming	
☒ Construction Staging	\$0	☐ Street/Intersection Improvements	
☒ Traffic Handling Plans	\$0	☐ Turn Restrictions	
☐ Full Facility Closures		☐ Parking Restrictions	
☒ Local Road Closures	\$0	7. Other Considerations	
☐ Lane Modifications		☐ Application of New Technologies	
☐ One-Way Reversing Operation		☐ Other	

TOTAL ESTIMATED COST OF TMP \$402,000

PROJECT NOTES:

- Current dollar values used. Inflation was not factored into the estimate.
- There are no noise restrictions / moratoriums for night work.
- Traffic Control/Maintain Traffic costs was not provided. Please consult with the OE or construction office for this estimate.
- Portable CMS specified for this project by this estimate is designed for congestion relief as outlined by DD-60. Portable CMS required for other purposes should be included under other specifications.
- COZEEP specified for this project by this estimate is designated for congestion relief as outlined by DD-60. COZEEP required for other purposes should be included under other specifications.
- The TMP is a living document that is subject to change if material changes take place in the final version of the project phase or if changes are required during construction to respond to excessive levels of congestion.
- This revised TMP Data Sheet supersedes the previous TMP Data Sheet dated "date".

PREPARED BY: BILL LE	OFFICE OF TRAFFIC MANAGEMENT	DATE: February 16, 2011
--------------------------------	-------------------------------------	-----------------------------------

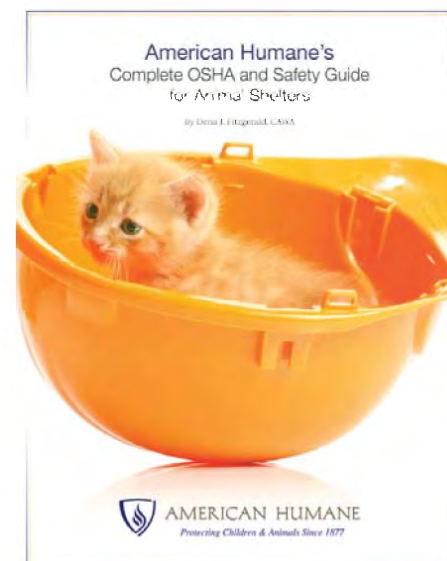
Welcome to today's presentation. We are delighted to have your participation. While you are waiting for the presentation to begin below are a few helpful tips:

- **TO JOIN THE AUDIO PORTION OF THE PRESENTATION, PLEASE CALL (800)832-0736 AND ENTER CODE 9283443.**
- **PLEASE DO NOT PUT YOUR PHONE ON HOLD**
- **PLEASE MUTE YOUR PHONE BY USING YOUR MUTE BUTTON OR BY PRESSING *45# ON YOUR TELEPHONE KEYPAD**
- **IF YOU HAVE ANY DIFFICULTIES, PLEASE EMAIL paulac@americanhumane.org**

AMERICAN HUMANE ASSOCIATION

The nation's voice for the protection of children & animals

OSHA Compliance For Animal Shelters





What is OSHA?

The Occupational Safety and Health Administration is an agency of the U.S. Department of Labor created under the Occupational Safety and Health Act of 1970. OSHA's mission is to prevent work-related injuries, illnesses and deaths by issuing and enforcing federal standards for workplace safety. All OSHA standards and guidelines can be found at www.osha.gov

Why should I worry about OSHA?

- Keep employees safe on the job
- It's the law
- Reduce absenteeism due to work-related injuries or illnesses
- Reduce worker's comp claims and insurance costs
- Decrease the likelihood of OSHA inspections, citations and fines



AMERICAN HUMANE
Protecting Children & Animals Since 1877

State OSHA's

States with approved plans covering both public and private sectors:

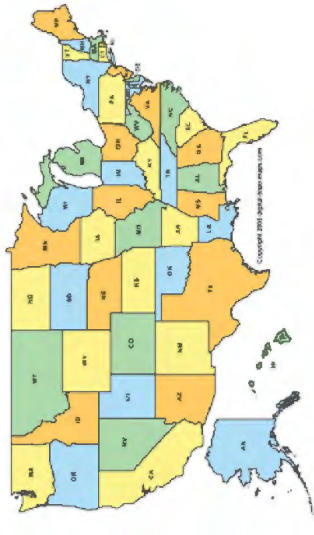
- Alaska
- Arizona
- California
- Hawaii
- Indiana
- Iowa
- Kentucky
- Maryland
- Michigan
- Minnesota
- Nevada
- New Mexico
- North Carolina
- Oregon
- Puerto Rico
- South Carolina
- Tennessee
- Utah
- Vermont
- Virginia
- Washington
- Wyoming

States with approved plans covering the public sector only:

- Connecticut
- New Jersey
- New York
- Virgin Islands

States with unapproved plans:

- Ohio



New Mexico Occupational Health & Safety Bureau

Your state plan can be found here:

http://www.nmenv.state.nm.us/Ohsb_Website/StatePlan/

OSHA's General Duty Clause

- Some of the most critical safety issues in shelters are not specifically addressed by any OSHA standard, but they do fall under the "General Duty Clause"
- The General Duty Clause requires an employer to *"furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees"*

Create a Safety Manual



HERE ARE THE SAFETY MANUALS YOU WANTED



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Create a Safety Manual

- Not required by OSHA
- Best means of organizing all safety related information in one place
- Separate from your general policies and procedures manual
- Primary means of communicating and enforcing your shelter's safety policies and procedures
- Every employee should receive a copy upon hire
- Maintain a copy in an easily accessible location, such as the staff break room



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Create a Safety Manual

- Develop an outline
- Address one topic at a time
- Begin with the most serious safety issues
- Involve your staff
- Create a written policy
- Staff training
- Implementation
- Enforcement



Perform a Hazard Assessment

- Fill out a Work Hazard Assessment Form for each area and task
- Interview and observe staff
- Consult MSDS's for tasks that involve use of chemicals
- Make changes or adjustments to improve workplace safety
- Engineering controls
- Procedural Controls
- Use of PPE only when engineering or procedural controls are not possible

Know Your Employer Rights

- Implement and enforce safety rules in the workplace
- Be present or designate a representative be present during any inspection or investigation by OSHA
- Require that an OSHA compliance officer obtain a search warrant before entering or inspecting the business
- Request that an inspection be postponed to a more convenient time
- Maintain confidentiality of trade secrets

Know Your Employer Rights

- Consult an attorney before, during or after an inspection and before responding to any inquiry
- View any complaint that has been alleged against the business
- Require that employees be interviewed at a time that does not unreasonably impact their job duties
- Appeal findings or citations issued by OSHA



Know Your Employer Responsibilities

- Provide a workplace free from recognized or unnecessary hazards
- Implement and enforce safety rules and communicate them to employees in a clear manner
- Provide all required PPE and adequate training for its use
- Provide safety training to all employees on the potential hazards associated with their jobs and the steps necessary to perform their jobs safely

Know Your Employees' Rights

- Workplace free from recognized hazards
- Be informed of their rights under the OSH Act
- Be informed of known hazards
- Be trained to safely perform their job
- Be provided with and instructed on the use of all required PPE
- View and receive copies of all applicable OSHA standards

Know Your Employees' Rights

- Have access to all illness, injury and exposure records maintained as part of the business
- Be present in the workplace when safety monitoring is performed
- File a complaint with their employer and/or OSHA when a hazard requires correction
- Speak to an OSHA compliance officer privately during an inspection

Know Your Employees' Responsibilities

- Read the OSHA poster
- Comply with all applicable OSHA Standards
- Follow all employer safety and health rules
- Use required PPE
- Report any hazardous conditions to their employer
- Report any job-related injury or illness to their employer promptly
- Cooperate with an OSHA compliance officer during an inspection

Required Postings



OSHA Poster 3165



OSHA Form 301A, Rev. 9/95
Summary of Work-Related Injuries and Illnesses

Summary of Work-Related Injuries and Illnesses

1. Administrative Information Name _____ Address _____ City _____ State _____ Zip _____ Phone _____ 2. Personal Information Age _____ Sex _____ 3. Education High School _____ College _____ 4. Employment Current Employer _____ 5. Interests 6. Comments	
--	--



Hazard Warning Signs



Exit Signs

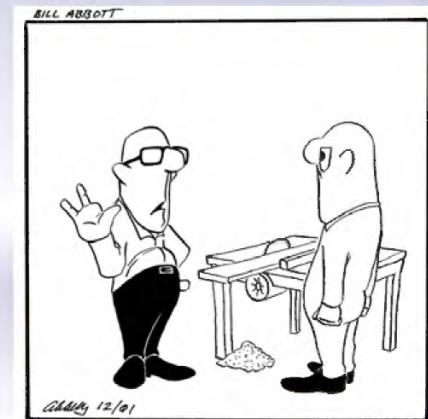


Other Required Postings

- Notices of OSHA inspections
- OSHA citations
- Written Hazard Communication Plan
- Written Fire Prevention and Emergency Response Plan



Staff Training



"Don't tell me how to work safely!
I've been at this job for over five
years!"

Staff Training

- Employees must be trained before they are exposed to a hazard
- Safety training must be documented
- Read shelter safety manual before starting
- Interactive training with manager



Required Training

- General Duty Clause
- Employee's rights and responsibilities
- Fire prevention and emergency response plan
- Noise exposure
- Ionizing radiation
- PPE
- Signs
- Medical services and first aid
- Portable fire extinguishers
- Hazard communication plan



Multi-Employer Workplaces



Multi-Site Workplaces



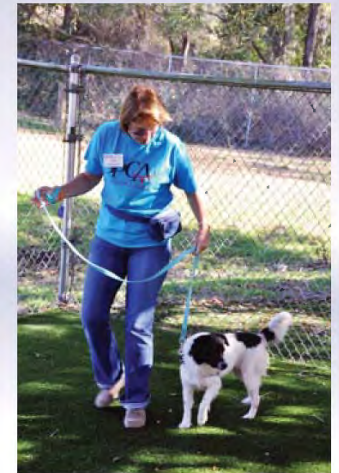
Independent Contractors

- OSHA requires that you assume the role of employer
- Must undergo the same safety training and follow the same rules as you regular employees



Volunteers

- NOT covered by OSHA
- Not required to report injuries, require PPE or provide safety training
- Volunteers that are adequately trained in safe animal handling and use of chemicals are more likely to have a positive experience



Work-Related Injuries and Illnesses



Reporting of Work-Related Injuries and Illnesses

- Death
- Loss of consciousness
- Fractured bone
- Punctured eardrum
- Chronic or irreversible disease
- At least one day of missed work
- Restriction of abilities or duties
- Needle stick contaminated with human blood
- Removed from the job for medical reasons listed under the OSHA health standard
- Medical treatment other than first aid



What is considered first aid?

- Non-prescription medications
- Cleaning, flushing, soaking a superficial wound
- Wound coverings
- Hot or cold therapy
- Non-rigid means of support
- Eye patches
- Irrigation to remove foreign bodies in the eye
- Irrigation, tweezers to remove foreign bodies from other areas
- Finger guards
- Massage
- Tetanus vaccines
- Drinking fluids to relieve heat stress



OSHA Form 301

OSHA's Form 301
Injury and Illness Incident Report

OSHA requires this form to be completed for all incidents that result in a fatality, loss of consciousness, hospitalization requiring medical attention, or loss of work time or restriction on the ability to perform the major functions of the job. This form is to be completed for all incidents that result in a fatality, loss of consciousness, hospitalization requiring medical attention, or loss of work time or restriction on the ability to perform the major functions of the job.

U.S. Department of Labor
Occupational Safety and Health Administration

Rev. 10-2010 (OSHA 301-100)

Information about the employee

1. Name of employee _____

2. Job title _____

3. Date of incident _____

4. Time of day _____

5. Location of incident _____

6. Description of incident _____

7. Nature and extent of injury or illness _____

8. Date of first aid _____

9. Date of last aid _____

10. Date of return to work _____

11. Date of last follow-up _____

12. Date of last medical attention _____

13. Date of last medical attention _____

14. Date of last medical attention _____

15. Date of last medical attention _____

16. Date of last medical attention _____

17. Date of last medical attention _____

18. Date of last medical attention _____

19. Date of last medical attention _____

20. Date of last medical attention _____

21. Date of last medical attention _____

22. Date of last medical attention _____

23. Date of last medical attention _____

24. Date of last medical attention _____

25. Date of last medical attention _____

26. Date of last medical attention _____

27. Date of last medical attention _____

28. Date of last medical attention _____

29. Date of last medical attention _____

30. Date of last medical attention _____

31. Date of last medical attention _____

32. Date of last medical attention _____

33. Date of last medical attention _____

34. Date of last medical attention _____

35. Date of last medical attention _____

36. Date of last medical attention _____

37. Date of last medical attention _____

38. Date of last medical attention _____

39. Date of last medical attention _____

40. Date of last medical attention _____

41. Date of last medical attention _____

42. Date of last medical attention _____

43. Date of last medical attention _____

44. Date of last medical attention _____

45. Date of last medical attention _____

46. Date of last medical attention _____

47. Date of last medical attention _____

48. Date of last medical attention _____

49. Date of last medical attention _____

50. Date of last medical attention _____

51. Date of last medical attention _____

52. Date of last medical attention _____

53. Date of last medical attention _____

54. Date of last medical attention _____

55. Date of last medical attention _____

56. Date of last medical attention _____

57. Date of last medical attention _____

58. Date of last medical attention _____

59. Date of last medical attention _____

60. Date of last medical attention _____

61. Date of last medical attention _____

62. Date of last medical attention _____

63. Date of last medical attention _____

64. Date of last medical attention _____

65. Date of last medical attention _____

66. Date of last medical attention _____

67. Date of last medical attention _____

68. Date of last medical attention _____

69. Date of last medical attention _____

70. Date of last medical attention _____

71. Date of last medical attention _____

72. Date of last medical attention _____

73. Date of last medical attention _____

74. Date of last medical attention _____

75. Date of last medical attention _____

76. Date of last medical attention _____

77. Date of last medical attention _____

78. Date of last medical attention _____

79. Date of last medical attention _____

80. Date of last medical attention _____

81. Date of last medical attention _____

82. Date of last medical attention _____

83. Date of last medical attention _____

84. Date of last medical attention _____

85. Date of last medical attention _____

86. Date of last medical attention _____

87. Date of last medical attention _____

88. Date of last medical attention _____

89. Date of last medical attention _____

90. Date of last medical attention _____

91. Date of last medical attention _____

92. Date of last medical attention _____

93. Date of last medical attention _____

94. Date of last medical attention _____

95. Date of last medical attention _____

96. Date of last medical attention _____

97. Date of last medical attention _____

98. Date of last medical attention _____

99. Date of last medical attention _____

100. Date of last medical attention _____

OSHA Form 300



DISH
Division of Industrial Safety
 Minnesota Department of Labor and Industry

Form 900
 10/01/00
Revised 10/01/00

Instructions: This form is to be used to report a work-related injury or illness that results in a lost workday or a restriction on the employee's normal job duties. It is to be completed by the employer, the injured employee, or a third party who has knowledge of the incident. The form should be completed as soon as possible after the incident and submitted to the Division of Industrial Safety, Minnesota Department of Labor and Industry, 1000 University Avenue, SE, Suite 100, Minneapolis, MN 55414. The form should be completed in English.

Employer's Name: _____ **Address:** _____ **City:** _____ **State:** _____ **Zip:** _____

Employer's Phone: _____ **Employer's Fax:** _____ **Employer's E-mail:** _____

Employee's Name: _____ **Address:** _____ **City:** _____ **State:** _____ **Zip:** _____

Employee's Phone: _____ **Employee's Fax:** _____ **Employee's E-mail:** _____

Date of Incident: _____ **Time of Incident:** _____ **Location of Incident:** _____

Job Title: _____ **Job Description:** _____

Supervisor's Name: _____ **Supervisor's Title:** _____

Supervisor's Phone: _____ **Supervisor's Fax:** _____ **Supervisor's E-mail:** _____

Incident Description: _____

Witnesses: _____

Investigation: _____

Corrective Action: _____

Signature of Employer: _____ **Date:** _____

Signature of Employee: _____ **Date:** _____

Signature of Supervisor: _____ **Date:** _____

Medical Information: _____

First Aid: _____

Medical Treatment: _____

Medical Expenses: _____

Medical Records: _____

Medical Notes: _____

Lost Workday: _____

Restriction on Job Duties: _____

Other Information: _____

Comments: _____

OSHA Form 300A

OSHA's Form 300A (Rev. 10/95) **Summary of Work-Related Injuries and Illnesses**

Complete this summary for each establishment for the calendar year 1995. For establishments with 10 or more employees, this summary must be completed for each establishment. For establishments with fewer than 10 employees, this summary must be completed for each establishment. For establishments with 10 or more employees, this summary must be completed for each establishment. For establishments with fewer than 10 employees, this summary must be completed for each establishment.

Establishment of OSHA

Name of establishment _____
 Street address _____
 City _____ State _____ Zip _____
 Telephone () _____
 Fax () _____

Summary of Injuries and Illnesses

Number of employees _____

Number of days of lost time _____

Number of days of restricted work _____

Number of days of job transfer _____

Number of days of medical treatment _____

Number of days of lost time _____

Number of days of restricted work _____

Number of days of job transfer _____

Number of days of medical treatment _____

Number of days of lost time _____

Page No. _____

U.S. Department of Labor
 Occupational Safety and Health Administration

Establishment of OSHA

Name of establishment _____

Street address _____

City _____ State _____ Zip _____

Telephone () _____

Fax () _____

OSHA Form 300A (Rev. 10/95)

Number of employees _____

Number of days of lost time _____

Number of days of restricted work _____

Number of days of job transfer _____

Number of days of medical treatment _____

Number of days of lost time _____

Number of days of restricted work _____

Number of days of job transfer _____

Number of days of medical treatment _____

Number of days of lost time _____

Number of days of restricted work _____

Number of days of job transfer _____

Record Maintenance

- Shelters are NOT required to report work-related injuries or illnesses to OSHA unless they involve a death, work-place violence or hospitalization of five or more employees
- Records must be maintained for 5 years
- Records must be readily available for inspection by authorized state or federal OSHA officials
- Employees and former employees are permitted to access the Log (Form 300) and Summary (Form 300A) only

Personal Protective Equipment



Personal Protective Equipment

- PPE is NOT optional!!!!!!!!!!!!!!
- Maintain adequate quantities and appropriate sizes
- Allow staff to choose PPE
- Maintain in useable and sanitary condition



Noise Hazards

- OSHA requires a hearing conservation program when employees are exposed to noise levels above 85 dB based on an 8 hour time-weighted average (TWA)
- Most animal shelters have unacceptable noise levels in dog kennel areas
- Hearing protection required!!!



Noise Hazards



Hazard Communication Standard

- Also known as the “Right to Know Law”
- When employees are required to be exposed to a hazardous chemical, they have a right to be informed of the hazard, to be able to identify the hazard and know how to take protective measures to minimize their exposure
- Requires every business that handles, stores or uses potentially hazardous chemicals to have a written plan for informing workers of the safety information
- Applies to all chemicals on the premises

Hazard Communication Standard

Has five specific requirements:

1. The plan must be in writing
2. A complete list of all hazardous chemicals must be maintained at all times
3. A Material Safety Data Sheet (MSDS) must be maintained for each chemical on the list
4. All containers of hazardous chemicals must be properly labeled
5. All employees must be trained on the hazards and safety aspects of each chemical

Written Hazard Communication Plan

Must include the following:

1. Introduction stating the purpose of the plan
2. Name and contact information for the person(s) designated to handle safety issues
3. Description of the identification system used to label hazardous chemicals along with a sample label
4. Location of the MSDS binder and the method by which the sheets are filed
5. Detailed staff training information, including scheduling, materials used, objectives and person(s) responsible for conducting the training

Hazardous Materials List

- With very few exceptions, the list must include all products that are in liquid or powdered form
- Products with the same formulation, but of different brand names, must be listed as separate products
- Products of the same brand, but with different formulations, must be listed as separate products
- Create the list by going room by room
- Throw out old or donated products that are not used
- Maintain list in a spreadsheet and sort alphabetically
- A copy of the list should be placed in the front of your MSDS binder



Hazardous Materials List

Exceptions include the following:

- Medications in solid form, not including capsules, gels, powders or crushed tablets
- Food and nutritional products, including KMR, IV fluids and liquid vitamins
- Drugs or cosmetics intended for personal consumption by employees
- Articles that contain hazardous materials, such as thermometers, pens and autoclave tape
- Any common consumer product when it is used in the same manner as a normal consumer would use it

Material Safety Data Sheets



Material Safety Data Sheets

- You must have an MSDS for every product on your Hazardous Materials List
- Obtain online from manufacturer's website or call and request by phone – you must have hard copies
- Must be filed in a uniform way, such as alphabetically by product name
- Must be readily accessible to all staff at all times
- Review every MSDS for PPE requirements and ensure that staff is informed and trained via your Hazard Communication Plan

Secondary Container Labels



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Secondary Container Labels

- All secondary containers must be labeled, regardless of their size
- May be commercially produced or handmade
- Name of the chemical consistent with your MSDS filing system
- Strength of the chemical, if indicated
- Appropriate hazard warnings from the MSDS, which must include health, flammability and reactivity hazards AND required PPE



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Secondary Container Labels

HMIS® HMIS® HMIS® HMIS® HMIS® HMIS®	
HMIS®	
HEALTH	
FLAMMABILITY	
PHYSICAL HAZARD	
PERSONAL PROTECTION	
HMIS® Q2001 NPCA • JJKK 306-HMI-R 6992	
HMIS® HMIS® HMIS® HMIS® HMIS® HMIS®	

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM

www

HAZARD INDEX

4 = SEVERE HAZARD

3 = SERIOUS HAZARD

2 = MODERATE HAZARD

1 = SLIGHT HAZARD

0 = MINIMAL HAZARD

* An asterisk (*) or other designation may appear in addition to the hazard index on the label or separate chemical safety information.

PERSONAL PROTECTION INDEX

HEALTH

FLAMMABILITY

PHYSICAL HAZARD

PERSONAL PROTECTION

A		G	  										
B	 	H	  										
C	  	I	  										
D	  	J	  										
E	  	K	  										
F	   	X	Consult your supervisor or S.O.P. for "SPECIAL" handling directions										
A		n		o		p		q		r		s	
t		u		w		y		z					
Clear Respirator	Vision Resistant	Heat & Vapor Resistant	Full Face Respirator	Autoclave Resistant	Acid Resistant	Synthetic Resistant	Antistatic Resistant	Flame Resistant	Full Body Protection				

Eyewash Stations



Eyewash Stations



Waste Disposal

Falls under OSHA's General Duty Clause

Five types of waste generated in animal shelters:

1. Animal waste
2. Biological hazardous waste
3. Sharps
4. Chemical Hazardous Waste
5. General Waste



Animal Waste

- Urine , feces, vomitus and blood are not considered to be hazardous to humans
- Dispose of in regular trash
- Use good sanitation practices
- Suspected zoonotic diseases are the exception



Biological Hazardous Waste

- Biomedical waste and sharps disposal is regulated by individual states
- Blood tubes, syringes, vaccine vials, IV lines, sponges, bandages and animal tissues are considered to be biomedical waste only when they contain human pathogens or when used on an animal infected with a zoonotic disease



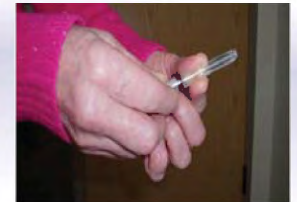
Sharps

- Defined as any device capable of puncturing, lacerating or penetrating the skin
- Some states also classify syringes as sharps
- Disposal must be in a rigid, puncture-proof, leak-proof container that inhibits rapid microbial growth
- Pick up by biohazardous waste service



Recapping Needles

- Don't do it! Needle-stick injuries are common!
- If absolutely necessary use a recapping device
- Or one-handed scoop method



Chemical Hazardous Waste

- Contact your city or county for regulations
- Most detergents and disinfectants can go down the drain
- Some pesticides, drugs and X-ray solutions should not go down the drain – read labels for proper disposal



Electricity

- All components of a building's electrical system must be free from damage and adequate to meet the needs of the business
- OSHA specifically prohibits the use of power strips, extension cords and outlet-multiplying devices as substitutes for permanent wiring.



Fire Prevention & Emergency Response Plan

- OSHA requires a written plan
- Plan must be accessible to staff at all times
- Staff training must be provided
- Shelters are also subject to local fire codes



Fire Prevention & Emergency Response Plan

The written plan must include:

- Escape routes
- Procedures for staff members who will remain behind to perform critical operations before they evacuate (NOT applicable to animal shelters)
- Procedures to account for all staff after emergency evacuation

Fire Prevention & Emergency Response Plan

- Rescue and medical duties for staff (NOT applicable to animal shelters)
- Methods for reporting fires and emergencies
- Name of the person responsible for developing and updating the written plan



Fire Extinguishers

- NOT required by OSHA for most businesses
- BUT they are required by most local fire codes
- Extremely valuable in preventing small fires from becoming major ones
- Sprinkler systems are not required by OSHA, but are required by some local fire codes



Fire Extinguishers

- Must be placed so that any employee is never more than 75 feet from accessing one
- Located near exits whenever possible
- Must be easily visible
- Wall mounted 32 to 48 inches from the floor
- Must be inspected yearly by a service company and display an inspection tag
- Must be checked monthly by a designated staff member

Routes of Egress & Emergency Exits



Routes of Egress & Emergency Exits

- OSHA requires at least two exit routes from each building
- Exit doorways must be at least 28" wide and 6' 8" high
- Hallways leading to or from an exit must be at least 28" wide and 7' 6" high
- All exit doorways must be marked with an "EXIT" sign with letters at least 6" high and $\frac{3}{4}$ " wide

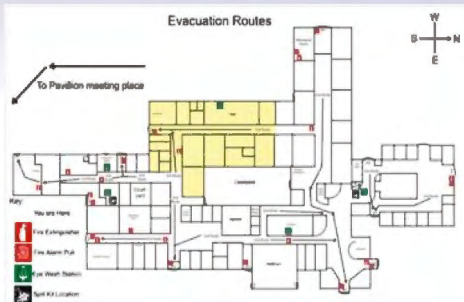


Routes of Egress & Emergency Exits

- OSHA does not require illuminated "EXIT" signs, but most local fire codes do
- If an exit route is not obvious, the route must be marked by signs reading "EXIT" with arrows indicating the direction
- Exit doors cannot be locked in any way that would prevent escape
- Any doors that do not allow escape, but could be mistaken for an exit must be marked with a sign that reads "NOT AN EXIT"

Routes of Egress & Emergency Exits

- OSHA does not specifically require posting of exit route diagrams
- BUT they are the most effective way of fulfilling OSHA's requirement of written escape routes



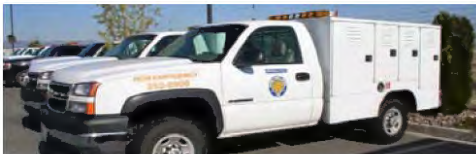
Emergency Lighting

- Required to illuminate routes of egress during a power outage
- Also required in areas where employees may be involved in a hazardous situation when a power outage occurs
- Must come on automatically when a power outage occurs
- Flashlights are NOT an acceptable form of emergency lighting



Driver and Vehicle Safety

- Motor vehicle accidents are the #1 cause of work-related deaths in the U.S.
- If an employee operates a motor vehicle as part of his/her job, even if the vehicle is not owned by the employer, the employer is responsible for ensuring that the vehicle is maintained in safe operating condition and that the employee has a valid driver's license



Driver and Vehicle Safety

- Employees should NOT be permitted to drive their own vehicles to perform work duties! (if at all possible!)
- Maintain current copies of employees' driver's licenses in personnel files
- Written policy requiring employees to notify employer if their license is suspended or revoked
- Maintain maintenance and repair records for all vehicles



Restrooms



- OSHA requires at least one working toilet & one hand-washing station per 15 employees present in the facility at any given time
- The need for public restrooms is not addressed by OSHA

General Housekeeping & Maintenance

- OSHA requires the workplace to be maintained in such a way that prevents unnecessary physical and health hazards
- Tripping and slipping hazards
- Vermin infestations
- Cover drains and gutters
- Remove trash promptly



Food & Beverages in the Workplace

- If the employer allows staff to store, prepare or consume food and beverages on the premises, then the employer must provide a space that is free from biological and chemical hazards = staff break room
- Food and beverages must NEVER be permitted in animal areas, regardless of whether animals are present at the time



Compressed Gases

- OSHA regulations apply to all gas cylinders, regardless of size or whether they are empty or full

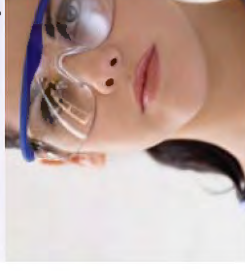


Compressed Gases

- Must be stored in a cool, dry place away from heat sources and direct sunlight
- Must be secured in an upright position via a bracket, chain or strap attached to either a floor or wall mount or transport cart
- Cylinders equipped with protective caps must have them in place whenever the cylinder is not in use

Compressed Gases

- Never roll or drag cylinders – use a cart
- Impact-resistant safety goggles must be worn when connecting and disconnecting cylinders
- Gas valves must be shut off when not in use
- Central-supply gas systems must be inspected at least yearly by a qualified technician



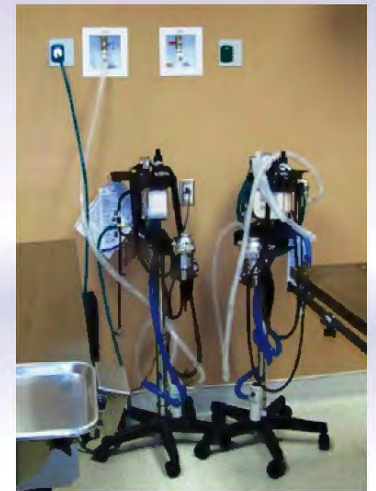
Waste Anesthetic Gases (WAG)

- OSHA does not have exposure limits for isoflurane, but does enforce the NIOSH recommendation of 2 ppm for halogenated agents
- Your anesthetic gas safety program must include both engineering controls and specific work practices
- OSHA requires a written Anesthetic Safety Plan



Anesthetic Safety Plan

- Policy statement
- Scavenging system
- Written procedures
- Equipment maintenance
- Emergency procedures
- Monitoring of WAG levels
- Staff training



First Aid Kits

- NOT required by OSHA as long as your shelter is located within 15 minutes of accessible emergency medical treatment
- BUT highly recommended that you have one
- Must only be used by staff for “self-aid” in order to avoid OSHA’s strict regulations for the administration of first-aid



Animal Handling

- Animal bites and scratches are the #1 cause of work-related injuries in animal shelters
- Not specifically addressed by OSHA – covered by the General Duty Clause
- Best protection against bites and scratches is adequate staff training



Animal Handling

- Appropriate handling and restraint equipment must be provided
- Written animal handling SOP's should be in place
- Staff should never be expected to place themselves in unnecessary danger



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Zoonotic Diseases

- Not specifically addressed by OSHA – covered by the General Duty Clause
- Staff must be thoroughly trained on the types of zoonotic diseases, routes of transmission, clinical signs and prevention
- Written SOP addressing the handling of infected or potentially infected animals – isolation, PPE, sanitation



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Zoonotic Diseases

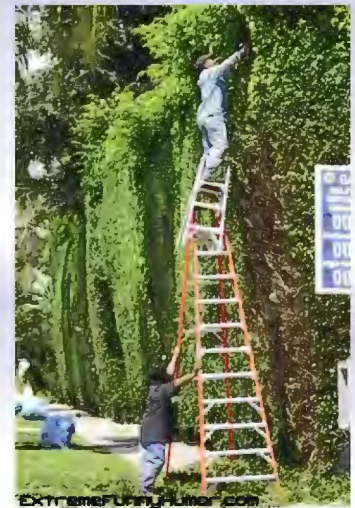
- Rabies
- Ringworm
- Leptospirosis
- Toxoplasmosis
- Cat scratch disease
- Plague
- Scabies
- Lyme disease
- Roundworms
- Hookworms
- Giardia



AMERICAN HUMANE
Protecting Children & Animals Since 1877

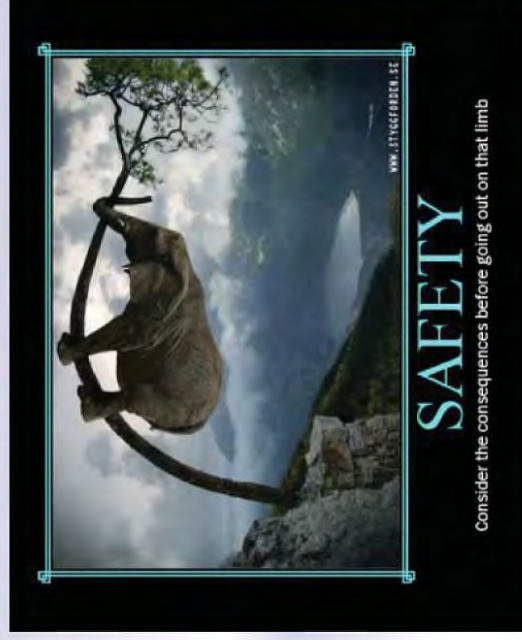
Other Topics in the Guide

- Chemical spills
- Radiology
- Ladder safety
- Stairs
- Indoor air quality
- Ergonomics
- Workplace violence
- Building security



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Questions?



denaf@americanhumane.org

303-925-9453



AMERICAN HUMANE
Protecting Children & Animals Since 1877

Noise in the Animal Shelter Environment: Building Design and the Effects of Daily Noise Exposure

Crista L. Coppola
Animal Behavior Center
ASPCA
Urbana, Illinois

R. Mark Enns and Temple Grandin Animal Sciences Department
Colorado State University

JOURNAL OF APPLIED ANIMAL WELFARE SCIENCE, 9(1), 1-7

Sound levels in animal shelters regularly exceed 100 dB. Noise is a physical stressor on animals that can lead to behavioral, physiological, and anatomical responses. There are currently no policies regulating noise levels in dog kennels. The objective of this study was to evaluate the noise levels dogs are exposed to in an animal shelter on a continuous basis and to determine the need, if any, for noise regulations. Noise levels at a newly constructed animal shelter were measured using a noise dosimeter in all indoor dog-holding areas. These holding areas included large dog adoptable, large dog stray, small dog adoptable, small dog stray, and front intake. The noise level was highest in the large adoptable area. Sound from the large adoptable area affected some of the noise measurements for the other rooms. Peak noise levels regularly exceeded the measuring capability of the dosimeter (118.9 dBA). Often, in new facility design, there is little attention paid to noise abatement, despite the evidence that noise causes physical and psychological stress on dogs. To meet their behavioral and physical needs, kennel design should also address optimal sound range.

Noise in an animal shelter has previously been discussed (Key, 2000; Milligan, Sales, & Khirnykh, 1993; Sales, Hubrecht, Peyvandi, Milligan, & Shield, 1997). Sales et al. reported that sound levels regularly exceeded 100 dB. Sound is measured in decibels (dB) and the scale is logarithmic, meaning that 90 dB is 10 times the intensity of 80 dB and is 100 times the intensity of 70 dB. A noise level over 70 dB(A) is considered "loud" (Baker, 1998). To put this into context, 95 dB(A) is comparable to a subway train, 110 dB(A) is a jackhammer, and 120 dB(A) is a propeller aircraft; any sound in the 90 to 120 dB(A) range is considered to be in the critical zone and can be felt as well as heard (Key, 2000). No single method or process exists for measuring occupational noise. A noise dosimeter is preferred for measuring noise levels when the noise levels are varying or intermittent and when they contain impulsive components such as barking. One consideration when using a noise dosimeter is that the microphone is within the hearing zone of individuals being monitored.

It has long been documented that audible sound has profound physiological and psychological effects on nonhuman animals and disturbs the healthy equilibrium of the body (Wei, 1969). Noise has been found to be a physical stressor on animals that can lead to behavioral, physiological, and anatomical responses. Noise-induced cortisol increases can cause immunosuppression, insulin resistance, cardiovascular diseases, catabolism (molecular decomposition), and intestinal problems (Spreng, 2000). The hearing of animals differs from that of humans; dogs (*Canis familiaris*) have much better hearing and can hear sounds up to four times quieter than can the human ear. Recent research shows that noise in dog kennels may be a welfare concern for the animals (Sales et al., 1997), but currently no policies regulate noise levels in dog kennels.

The objective of this observational case study was to evaluate the levels of noise to which dogs are exposed on a continuous basis and to determine the need for noise regulations. Regulations may emphasize the necessity to control levels through building design and materials instead of trying to reduce the noise produced by the animals. The facility where this study was conducted was designed and built in the last 7 years. However, as is often typical, there were no obvious preventative measures in the design to reduce noise and, in fact, design may have had the opposite effect due to animal arrangement, the use of concrete block, and exposed metal roofing.

Materials and Method

Noise levels were measured at an animal shelter constructed in 1999. The facility has five main indoor areas for holding dogs and two main areas for holding cats. Measurements were taken in all indoor dog-holding areas and included large adoptable, large stray, small adoptable, small stray, and front intake (Figure 1). Measurements were recorded using a noise dosimeter (Q-200, Quest Technologies, Oconomowoc, WI) continuously for 84 hr over 2 weekdays and both weekend days. Noise dosimeters were placed in each room and mounted to a wall. The walls were nonporous, producing reverberations experienced by the animals and measured by the dosimeters. Proximity of the nearest and furthest dog to the dosimeter varied between rooms but was well within the hearing zone of all animals within each holding area. The overall ambient sound measured by the dosimeter was that being experienced by all animals in the area. Noise measurements reported here were the max levels with slow response and "A" weighting. This type of dosimeter and weighting are commonly used to measure sound levels in work environments and to enforce Occupational Safety and Health Administration regulations.



FIGURE 1: Diagram of the humane society (66 ft x 120 ft)

The large adoptable and large stray areas are constructed of epoxy-painted cinder block walls and seamless floors on a concrete slab. The dog runs in the large adoptable and the large stray areas are separated by cement partitions (82 in.) and have chain link doors. Both of these areas have an exposed steel ceiling (> 20 ft). Noise dosimeters were mounted on the wall in these rooms at a height of 12 ft.

The large adoptable area is a smaller area within a larger area enclosed by a cement perimeter wall (82 in.). The larger room is connected by two hallways, eight doors to other areas (including large stray and small adoptable), and one exterior door. This area contains 26 runs with Plexiglas view windows on one end. The dog kennels line all four perimeter walls. There is an employee work area (food preparation, washing dishes) in the middle of the room. The large stray area is a separate room adjacent to the large adoptable area. This area has two doors and contains 15 kennels. The dog kennels line the south and east walls.

The small adoptable, small stray, and front intake areas are all separate rooms with a suspended nonacoustical tile ceiling (8 ft) and plasterboard walls. Noise dosimeters were mounted on the wall in these rooms at a height of approximately 7 ft.

The small adoptable and small stray areas each have one door, a concrete slab floor, and contain metal cages. The cages in the small adoptable area face the interior of the room and the exterior has Plexiglas windows; there is an employee work area in the middle of the room. The cages in the small stray area line the east wall and are also placed down the middle of the room. The front intake area contains cages and runs separated by sheet metal (60") and a linoleum floor. All kennels and cages are on the south wall. The room also has a refrigerator and a counter in each area with a sink and cabinets. The number of kennels and average number of animals during the study period are summarized in Table 1.

Statistical Analyses

The noise data were analyzed using a frequency procedure (SAS Institute Inc., 2002) to determine the frequency of noise above and below each threshold level (70, 80, 90, and 100 dBA) in each dog-holding area. The data were also analyzed using the Genmod procedure (SAS Institute Inc., 2002) to determine if there were any significant differences between the five dog-holding areas at each threshold level (70, 80, 90, and 100 dBA). Each area was treated as a fixed effect, class variable, and repeated subject. The analysis was appropriate for outcomes with a binary distribution and an auto-regressive covariance structure to account for the relation between measures in the same room.

Results

The amount of time spent above each threshold level during the 84-hr study period is shown in Figure 2. The large adoptable area was by far the loudest and some of the readings for other rooms were, in part, a result of sound reflection from the large adoptable area. Peak levels regularly exceeded the measuring capability of the dosimeter (118.9 dBA) in the large adoptable area. When the dogs were not vocalizing and the rooms "seemed" quiet, the noise readings were still above 50 to 60 dBA. Although there were numerical differences between rooms, there were no statistical differences at any threshold level ($p > .05$).

TABLE 1: Summary of Animal Holding Areas and Kennel Numbers

Holding Area	Average No. of Animals	No. of Kennels	Area^a
Large adoptable	34.25 dogs	26 runs	880
Large stray	15 dogs	15 runs	485
Small adoptable	9.8 dogs	28 cages	285
Small stray	9 dogs	17 cages	258
Front intake	4 dogs, 9.75 cats	4 runs, 4 cages	240

^a Given in square feet.

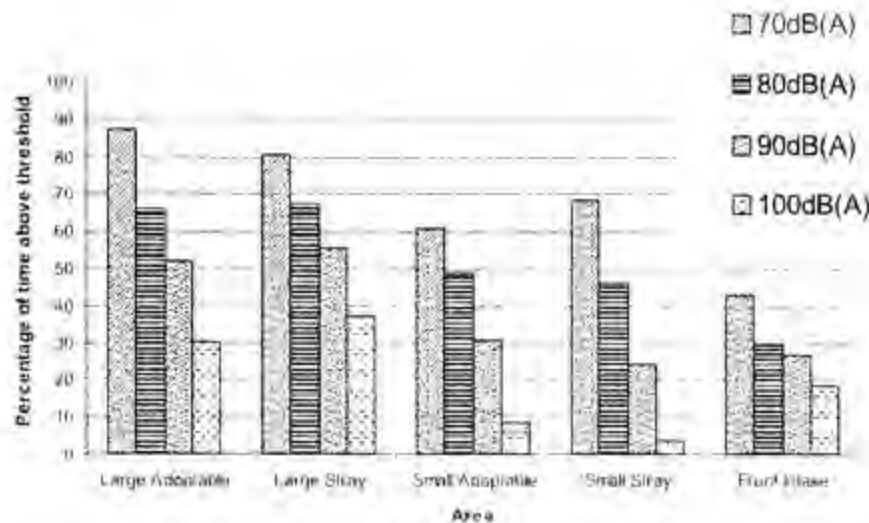


FIGURE 2: Percentage of time during the study period above each threshold level (70, 80, 90, and 100 dBA) for large adoptable, large stray, small adoptable, small stray, and front intake areas.

Discussion

Unfortunately, elimination of noise stressors is often disregarded, despite the evidence that noise places physical and psychological stress on dogs. In our study, the large adoptable area that holds the greatest number of animals was the loudest, which was not unexpected. This area receives a large amount of human traffic from those adopting dogs. Although not testable, given the nature of a functioning shelter, we suspect noise from this area overflows into all other areas. There are hallways leading from the large adoptable area that serve as noise conduits to the other areas -- one stopping at cat adoptable and cat stray and the other ending at the small adoptable room (Figure 1). In addition, noise produced by an individual dog barking can reach levels well over 100 dBA (Sales, Hubrecht, Peyvandi, Milligan, & Shield, 1996) and this exceeds OSHA regulation for workers (90 dBA). However, the animals live in this environment without the hearing protection that is available to people. The noise effect is three-fold:

1. The animals housed in the shelter.
2. The employees working at the shelter.
3. The public at the shelter looking for an animal to adopt.

The animals' mental and physical states are compromised; the employees may develop hearing damage and poor states of mind in caring for the animals. Our observations indicate that visitors sometimes are so bothered by the noise that visiting time is reduced during their search for an animal to adopt.

The large adoptable area is designed so that every dog can see every other dog if the dogs are at their kennel doors. The work area for this room also is located in the center of the rectangle, making it an additional source of stimulation. We observed that this layout allows for constant stimulation and may increase barking, as any activity within the large adoptable area stimulates every dog in the area. The result is virtually constant barking.

The design and building materials used do not allow for noise absorption, with the exception of rooms with suspended ceilings (small stray, small adoptable, and front intake). These do allow for absorption and somewhat reduced noise levels, although this difference was not statistically significant. The current public viewing design also contributes to the amount of stimulation for the dogs. The viewing windows start half-way up the perimeter wall. The placement of the viewing windows and the use of partitions between every kennel results in dogs that are constantly being surprised by people walking by and abruptly coming into view.

In the shelter environment, cortisol levels have been documented to be above normal, in some cases three times that of household pets (Hennessey, Davis, Williams, Mellott, & Douglas, 1997). We also found that in this instance (Coppola, Grandin, & Enns, 2006). Not all stress-induced elevations in cortisol are due to noise levels, but they are a contributing factor.

An increasingly popular way to design dog housing is to have self-contained rooms instead of the traditional kennels or runs. These rooms are typically enclosed within a larger area either with or without a community play area attached. Noise is absorbed and contained within the smaller room. These designs may also permit social housing of dogs, which research has shown to decrease noise caused by animal vocalization and increase the time animals spend sleeping (Hetts, Clark, Calpin, Arnold, & Mateo, 1992; Mertens & Unshelm, 1996). The incorporation of areas for play groups can contribute to noise abatement, as a mentally and physically exercised dog usually is a quiet one (personal communication, November 17, 2005; San Francisco Society for the Prevention of Cruelty to Animals, American Society for the Prevention of Cruelty to Animals, Humane Society at Lollypop Farm, Denver Dumb Friends League, North Shore Animal League). The American Society for the Prevention of Cruelty to Animals in New York has recently renovated both its holding and adoption areas to embrace these concepts and the San Francisco Society for the Prevention of Cruelty to Animals has been housing their adoptable dogs in "apartment-style" quarters since 1998.

Animal Welfare Implications

As previous scientists noted, kennels should be designed to meet the behavioral and physical needs of dogs, including attention to optimal ranges for sound (Key, 2000; Sales et al., 1997; Sales, Milligan, & Khirnykh, 1993). Unfortunately, even in new kennel construction, noise abatement designs are often ignored because of cost restrictions, making noise a hazard to the animals, employees, and potential adopters. Because of its unpredictable and uncontrollable nature, the shelter is a stressful environment for a dog, and any stress-inducing stimuli that can be reduced or eliminated should be addressed if possible. If one were to follow the standards for human dwellings, a mean sound level of 45 dBA would be the norm for animal houses. Without regulations regarding noise levels in animal shelters, noise may continue to be an overlooked variable and contribute to reduced overall welfare.

References

- Baker, D. E. (1998). Equipment decibel levels. *Grounds Maintenance*, 33(3), 73.
- Coppola, C. L., Grandin, T., & Enns, R. M. (2006). Human interaction and cortisol: Can human contact reduce stress for shelter dogs? *Physiology & Behavior*, 87, 537-541.
- Hennessey, M. B., Davis, H. N., Williams, M. T., Mellott, C., & Douglas, C. W. (1997). Plasma cortisol levels of dogs at a county animal shelter. *Physiology & Behavior*, 62, 485-90.
- Hetts, S., Clark, J. D., Calpin, J. P., Arnold, C. E., & Mateo, J. M. (1992). Influence of housing conditions on beagle behaviour. *Applied Animal Behaviour Science*, 34, 137-155.
- Key, D. (2000). Acoustic measures. Retrieved July 1, 2003, from <http://www.kenneldesign.com>.
- Mertens, P. A., & Unshelm, J. (1996). Effects of group and individual housing on the behavior of kennelled dogs in animal shelters. *Anthrozoos*, 9(1), 40-51.
- Milligan, S. R., Sales, G. D., & Khirnykh, K. (1993). Sound levels in rooms housing laboratory animals: An uncontrollable daily variable. *Physiology and Behavior*, 53, 1067-1076.
- Sales, G. D., Hubrecht, R., Peyvandi, A., Milligan, S., & Shield, B. (1996). Noise in dog kennelling: A survey of noise levels and the causes of noise in animal shelters, training establishments and research institutions. Wheathampstead, Hertfordshire, England: Universities Federation for Animal Welfare.

Sales, G. D., Hubrecht, R., Peyvandi, A., Milligan, S., & Shield, B. (1997). Noise in dog kennelling: Is barking a welfare problem for dogs? *Applied Animal Behaviour Science*, 52. 321-329.

Sales, G. D., Milligan, S. R., & Khimyk, K. (1993). The acoustic environment and its effects on laboratory animals, *Fifth FELASA Symposium: Welfare and Science*, 60-64.

SAS Institute Inc. (2002). *SAS Version 8 (Version 2002)*. Computer software. Cary, NC: Author.

Spreng, M. (2000). Possible health effects of noise induced cortisol increase. *Noise & Health*, 7, 59-63.

Wei, B. L. (1969). Physiological effects of audible sound. *AAAS Symposium Science*, 166(3904), 533-535.

 [Click here to return to the Homepage for more information on animal behavior, welfare, and care.](#)

This website requires certain cookies to work and uses other cookies to help you have the best experience. By visiting this website, certain cookies have already been set, which you may delete and block. If you do not agree to the use of cookies, you should not navigate this website. Visit our updated [privacy and cookie policy to learn more.](#)



Industrial Safety & Hygiene News



Inside a kennel: Chorus of barking dogs can reach 115 decibels



February 4, 2013

Hearing protection programs are designed to reduce the risk of long-term damage from repeated

or prolonged exposure to noises. OSHA standards require a hearing protection program when workers are exposed to noise levels above 85 decibels (dB) based on an eight hour time-weight average (TWA). The TWA is a method of calculating the danger based on the intensity of the noise and the duration of exposure, e.g., the louder the noise, the shorter exposure is permitted.



The hearing conservation program can take many forms, including medical evaluations and periodic audiograms for employees, safety equipment, reduction in noise levels by absorption or dissipation, training of employees, and posting of warning signs identifying noise hazard areas. As a general rule, most animal hospitals can maintain a very effective program with a minimum of time and resource expenditures.

Until recently, the design of most animal hospitals was such that noise from the kennels was isolated and contained to create a more pleasant environment in the rest of the hospital. Although this can be accomplished, it presents a particularly hazardous environment for workers who must clean the cages and care for the animals.

Noise hazards can exist outdoors

Outdoor runs generally do not have the echo or "bounce" of sound waves common to an indoor area, but they still can be a noise hazard area.

Although it will vary from one breed to another, as well as one animal to another, noise level from a barking dog can reach 80-90 decibels. It doesn't take much of a chorus of barking dogs to exceed the threshold limit for a noise hazard area.

As a matter of fact, noise levels in the kennels typically range from 95 to 115 decibels measured at the center of the room. At the upper end of this range a person could work approximately 15 minutes in the area without hearing protection during an average 8 hour work day.

Noise from dryers and clippers in a grooming room can also present a hazard. Depending on the size of the room, the number of dryers and clippers in use, and the texture of the walls, noise levels can get up to 100 decibels.

The most obvious advice for these two areas is to reduce the noise levels first. Sometimes this can be accomplished by the addition of sound absorbing panels, or "baffles."

If the noise levels cannot be reduced below the threshold limit by architectural or engineering means, then personal hearing protection is required for workers.

Ear plugs are not edible

There are literally hundreds of varieties of ear plugs and phones available. Choose one that is rated to reduce noise levels by at least 20 decibels. Disposable, foam rubber ear plugs are the most common, and are relatively inexpensive. Keep these ear plugs away from animals since they are easily swallowed.

Noise hazard areas must be identified by means of a poster, placard or sign. The wording should reflect the degree of danger. Typically, a sign stating "Warning: Noise Hazard Area. Hearing protection required for prolonged exposure" is sufficient for most areas. Place the sign at all entrances to the areas, including exterior doors. Economical, durable signs made of aluminum, acrylic, or self-adhesive vinyl are available from catalog sources and local safety supply outlets.

In the end, it is still the leadership's responsibility to enforce the hearing protection rules and OSHA will hold the employer accountable in an inspection.

Copyright ©2018. All Rights Reserved BNP Media.

Design, CMS, Hosting & Web Development :: ePublishing



CENTRAL UNIFIED SCHOOL DISTRICT
4605 North Polk Avenue • Fresno, CA 93722
Phone: (559) 274-4700 • Fax: (559) 271-8200

Assistant Superintendent, CBO
Kelly Porterfield

Directors:
Alissa Angle, Child Nutrition
Yolanda Balladures, Fiscal Services
Jesse Bath, Maintenance, Operations,
Transportation (MOT)
Chris Martinez, Technology
Joseph Martinez, Facility Planning

October 16, 2018

ATTN: Steven E. White
Director, Department of Public Works and Planning
2220 Tulare Street
Fresno CA 93721

Subject: Proposed Animal Shelter and Hospital
Application Number: AA3825

The purpose of this letter is to amend our previous Development Letter dated August 31, 2018. After attending the Animal Shelter Community Meeting on October 10, 2018 held at the Dante Club, additional concerns were raised that would impact Herndon Barstow Elementary School. We respectfully request mitigation measures related to the following:

- The likelihood that animals will be abandoned during the timeframe when the facility is closed would have a negative impact on the Herndon Barstow Elementary School. We have experienced that animals have a tendency to gravitate to active areas such as schools.
- Traffic is concentrated in the morning at the start of school and in the afternoon at the end of the school day, as a result traffic from the facility will have an impact on the school site. We request traffic mitigation measures be implemented to provide controlled intersections for children to cross and have a clear path of travel.
- As mentioned in our previous letter, we request noise mitigation as outlined in the environmental analysis.

With appropriate mitigation measures the District will continue to take a neutral position regarding the proposed development project. Developer impact fees from the proposed animal shelter and hospital will be classified under the commercial/industrial rate. The current Developer Fee Rates for commercial/industrial is \$.56 per square foot. Developer rates are evaluated annually and are subject to change. Please verify Developer Impact Fees prior to payment.

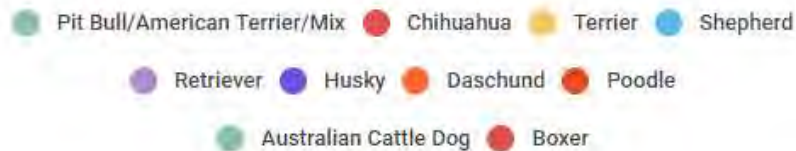
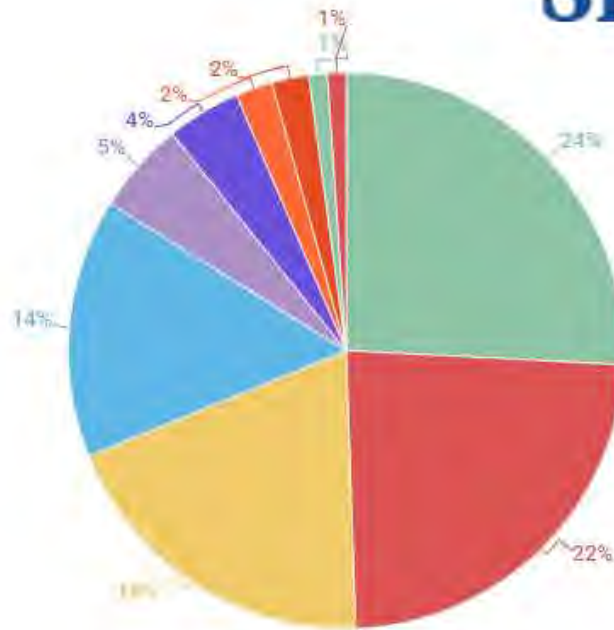
Thank you for the opportunity to comment on the Animal Shelter project. If you have any additional questions I may be reached at (559) 274-4700 ext. 63105 or kporterfield@centralusd.k12.ca.us.

Sincerely,

Kelly Porterfield
Central Unified School District
Assistant Superintendent /CBO

Top 10 Breeds Received by the Central California SPCA:

(2017-2018 Fiscal Year)



Live Intake: ~10,600

Animals Abandoned at the Central California SPCA:

(Grouped in fiscal years)

