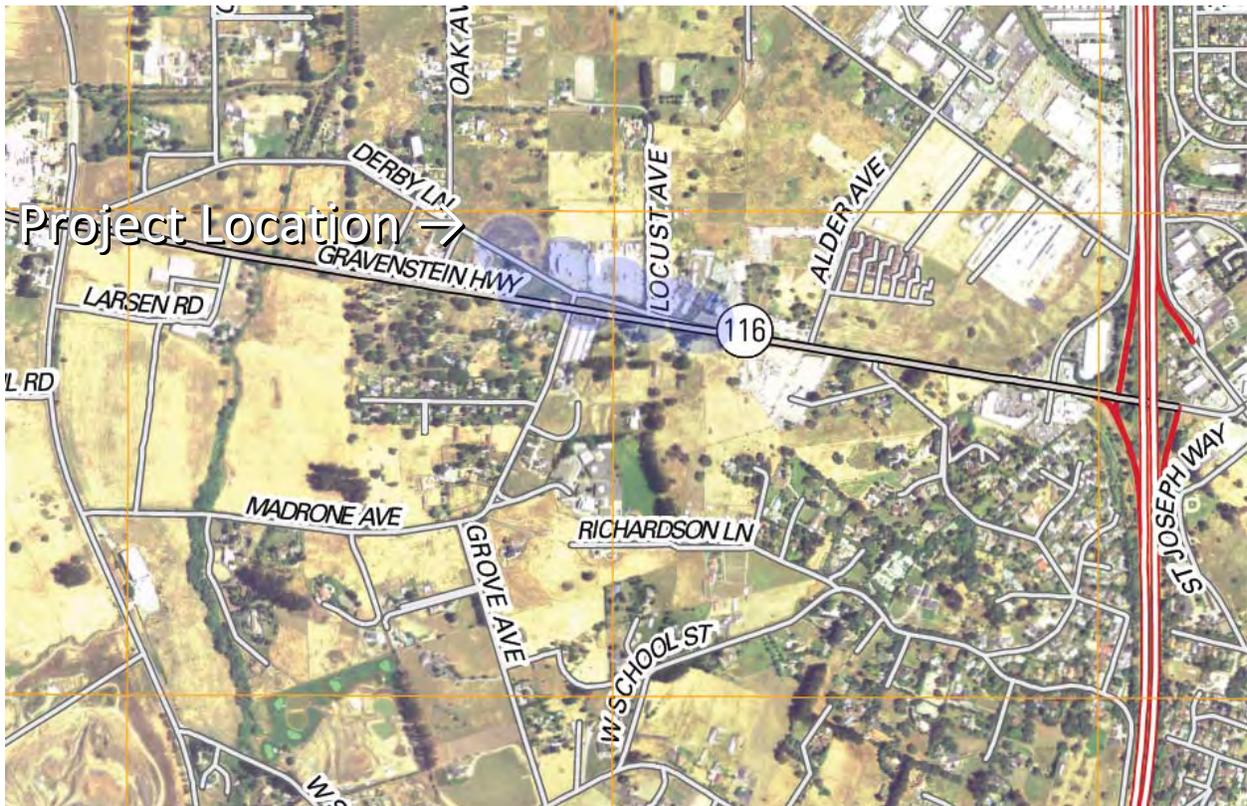


# Madrone Channelization Project

SONOMA COUNTY, CALIFORNIA  
DISTRICT 4 – SON – 116 (PM 34.09/34.47)  
Caltrans Expenditure Authorization 1G2401

## Initial Study with Proposed Negative Declaration



Prepared by the

State of California Department of Transportation



March 2012



Figure 1. Existing condition

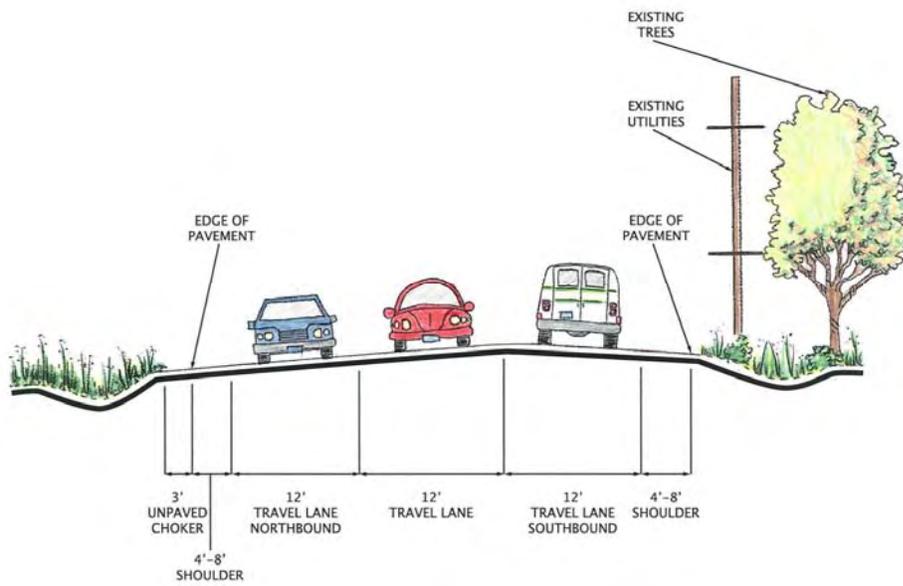


Figure 2. Typical cross-section, post construction (no scale)

# INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION

04-SON-116

34.09/34.47

1G2401

Dist.-Co.-Rte.

P.M/P.M.

E.A.

|   |  |
|---|--|
| Project Title:  | <b>Madrone Avenue Left-Turn Channelization Project</b>   |
| Lead agency name and address:   | <b>California Department of Transportation<br/>111 Grand Ave., Oakland, CA 94612</b>   |
| Contact person and phone number:  | <b>Lilian Acorda, Project Manager<br/>(510) 286-4927</b>   |
| Project Location:   | Cotati, Sonoma County  |
| General plan description:   | Transportation   |
| Zoning:   | Transportation   |
| Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements): | Section 7 incidental take permit from the US Fish and Wildlife Service<br>Section 2081 incidental take permit from California Department of Fish and Game for California Tiger Salamander<br>Clean Water Act 404 Permit from the US Army Corps of Engineers<br>Clean Water Act 401 Water Quality Certification from the Regional Water Quality Control Board |

Additional copies of this document, as well as of the technical studies we relied on in preparing it, are available for review at the district office, 111 Grand Ave., Oakland, CA 94612.

We welcome your comments. While you may voice support or opposition for a project, the most beneficial comments include the following:

- Specific alternatives or mitigation measures that would provide better ways to avoid or mitigate any potential environmental effects of the project
- Concerns that are not addressed in the environmental document
- Inaccuracies or missing information
- Statistical data or facts to support your concern

Please send your written comments to Caltrans by the deadline. Submit comments to Caltrans to [valerie\\_shearer@dot.ca.gov](mailto:valerie_shearer@dot.ca.gov) or send postal mail to Caltrans District 4, Attn: V. Shearer, PO Box 23660 MS 8B, Oakland, CA 94623-0660. Hard copies or compact disks of the document are available by writing to the above mailing address; electronic copies are online at <http://www.dot.ca.gov/dist4/envdocs.htm>. **Be sure to submit comments by the deadline: April 30, 2012.**

Melanie Brent Melanie Brent 3/29/12  
Office Chief Date  
Caltrans District 4 Office of Environmental Analysis

To obtain a copy in in Braille, in large print, on computer disk, or on audiocassette, please contact: Caltrans, Attn: Valerie Shearer at the address above, call at 510-286-5594, or use the California Relay Service TTY number, 711.

## **A. Project Information**

### **1. Location**

Caltrans proposes a project on SR-116 (Old Gravenstein Highway) in the City of Cotati and within unincorporated Sonoma County (PM 34.09 to PM 34.47) at the intersection with Madrone Ave. to install left-turn pockets in both directions from SR-116 to Madrone Ave. The project will widen the roadway, extend existing cross-culverts beneath the roadway, modify part of the existing unlined drainage gutter, and install a new longitudinal pipe.

### **2. Project goal**

The purpose of the project is to reduce congestion and improve safety. The rate of fatal accidents is higher than the state average for highway intersections of this type.

### **3. Project Description**

The existing roadway will be widened from a maximum of 36 feet to a maximum of 46 feet in order to accommodate one left turn pocket in each direction at the intersection of SR-116 and Madrone Ave. See Figure 2, page 2. The widened roadway will consist of one additional 12-foot lane, and a maximum of 5' additional shoulder, plus a "choker" (an unpaved 3-foot shoulder) on the north side, for a total maximum width of 20 feet. No widening is proposed for the south side. In order for the cross slope of the widened roadway to match the existing one, the existing alignment is maintained. Each new turn pocket will be 350 feet long. The connection between the existing and replacement edge of shoulder and travel way, called a "conform", will be made at the east and west ends of the project area and at the Madrone Ave. intersection in both directions, 45 feet from the edge of pavement on the north side of the mainline and 22 feet on the south side.

To accommodate widening, the ditches alongside the roadway will be filled and then recreated at the edge of the widened roadway. Culverts running under the roadway will be extended by securely connecting a pipe of similar size and material to the exposed and prepared end of the existing pipe, which will extend to the daylight edge of the proposed embankment or to additional drainage system(s). One new lateral pipe will be constructed. All proposed new drainage inlets (DIs) will tie into existing drainage facilities, cross culverts, or other existing offsite drainage features.

Two 15-foot wide biofiltration strips sufficient to treat stormwater runoff from 0.5 acres of additional impervious area will be constructed within the cut/fill line on either side of the Madrone intersection from STA38+00 to 39+80 Left and STA 40+30 to 44+00 Left. For biostrip construction, compost will be incorporated two to four inches into native soil, and then the soil surface hydroseeded with an appropriate seed mixture.

All construction spoils and debris will be removed and disposed of properly. Permanent erosion control will be installed as determined necessary by the Caltrans contract plans and permit requirements.

There will be a designated staging area of 0.08 acres (temporary impact) at the north-west side of Madrone Avenue.

The project will include the addition of 0.36 acres of impervious pavement. Permanent effects will amount to approximately 0.62 acres (including tree removal impact) beyond areas currently paved, currently occupied by a drainage structure, etc.

All Caltrans right-of-way within the project area not used for project construction will be flagged as an Environmentally Sensitive Area (ESA). ESA fencing will be installed along the perimeters of all sensitive habitat to prevent encroachment of construction vehicles and personnel.

One oak tree and one pine tree that are located approximately 17.5 and 24 feet, respectively, to the north from the existing edge of the pavement, at station 36+20+/- and 35+80+/- respectively, will be cut to flush with the existing surface. The impact area associated with tree removal is about 300 sq ft, (0.007 acres).

Three oak trees will be planted inside of the staging area to replace the lost oak. Caltrans will also plant or reseed all slopes affected by the proposed project with native grasses and shrubs to stabilize the slopes against erosion. Following construction, Caltrans will install native (and non-native if appropriate, e.g., landscaped areas) plant species appropriate for the location of the disturbed area.

### ***Drainage details***

The project will require up to 15 feet by approximately 270 feet of fill to be placed in the existing 30-foot-wide (4,060 square feet) unlined drainage ditch on the northern side of the roadway to accommodate widening. The ditch, on the north side of SR 116 and west of Madrone Avenue, will be recreated at the edge of the unpaved area at the edge of the roadway, up to 8 feet away from its original location. It will be a triangular unlined channel with side slopes at 4:1 on the roadside and at 2:1 before the catch point (point where the slope meets the existing ground), and about 12 feet wide and 2 feet deep.

The project will construct two drainage inlets (DIs) linked by a longitudinal pipe along the north side of the roadway. Excavation for each will be 4 feet in length, by 4 feet in width and 4 feet deep (32 square feet). A second longitudinal pipe will link to the second of the two DIs. The second pipe's outflow, west of the Madrone Avenue intersection, is equipped with a dissipater and rock slope protection (RSP) pad. Excavation for the associated RSP pad will be approximately 9 feet in length by 3 feet (27 square feet).

Four existing corrugated metal pipe (CMP) cross-culverts will be extended to accommodate the widening. The culverts will require a trench for placement, and two existing headwalls will be removed, with the new outfalls falling within the existing unlined ditch on the northern side. The excavation area dimensions for the new DI replacing the existing headwall, and new pipe extension to the west of the intersection of Madrone Avenue and SR 116, will be approximately 6 feet by 4 feet (24 square feet) and 1.5 feet by 30 feet (45 square feet) respectively.

Two additional DIs are proposed for extending the culverts, of which one will be used to connect the culvert extension to the existing CMP. The excavation for the new pipe extension at the intersection of SR 116 and Madrone Avenue will be approximately 2.5 feet by 18 feet (45 square feet). The new pipe extension and the new headwall, located east of the intersection of Madrone Avenue with SR 116 and

west of where Derby Lane enters SR 116, will require an excavation area of approximately 1.5 feet by 13 feet for the pipe and 7 feet by 2 feet for the headwall (47 square feet total). Four additional DIs will be installed along this extension.

### ***Pavement-construction details***

To construct the widened pavement section, the existing roadway will be saw cut along the fog line along the entire north side of this roadway section. Excavation depth for the new pavement section will be up to approximately three feet from the proposed finished roadway surface. The structural section is then built up by placing pavement structural base layers (combinations of graded rock and sand) followed by asphalt concrete (AC). Each layer will be compacted after being applied up to 0.1' below finished grade. The final asphalt concrete applications are cold-planed for an even join with the existing pavement surface. The choker will be compacted to 90% of maximum strength; small areas of fill in the choker may be required. The project will raise manhole covers to the new finish grade where required in the new widening and in the AC overlay area.

### ***Stage construction and equipment***

Construction activities will include placement of K-rail (temporary concrete barriers) along the existing edge of the saw cut roadway. Temporary crash cushions filled with sand will be placed at the ends of the K-rails. The K-rails are intended to provide a safety barrier between the vehicle traffic on SR 116 and the improvement work that will primarily be taking place outside the existing roadway. Activities will also include clearing and grubbing, which typically involve the use of excavators, dozers, and mulchers. A construction staging area will be established within the project boundary, to the northwest from the intersection of Madrone Avenue and SR 116, depicted on Figure 2 as the temporary impact area. There will be exclusionary fencing with an approximate buffer of about five feet from the vegetation/wetland features adjacent to the staging area.

Excavators will be used to dig the trenches needed to construct culverts. Dozers and excavators will likely be used for general grading and contouring. Rollers will be used to compact the soil, and water trucks will supply water used to aid soil compaction and dust control. Dump trucks, graders, and compactors will be used to lay the road aggregate subbase and aggregate base. In the first stage, AC will be placed up to 0.1 foot below finished grade. The second stage of construction will overlay the entire roadway width with AC, for consistency and smooth transition between the old and new pavement. Hauling trucks, pavers and rollers will be used to place and compact the AC. Pavement delineation, such as stripping and "bot dots," will be installed using specialized equipment.

Cold-planing will be used to build the conforms at the eastern and western ends of the project, and the northern and southern intersections of Madrone Avenue.

The majority of the construction work will take place during daylight hours behind the K-rail. However, excavation will occur at night to avoid peak traffic, particularly because one-way traffic control will be required.

A speed limit of 15 miles per hour (mph) in the project area in unpaved areas will be enforced to reduce dust and excessive soil disturbance.

Construction access, staging, storage, and parking areas will be located within the Caltrans right-of-way and outside of any designated ESAs. Access routes and the number and size of staging and work areas will be limited to the minimum necessary to construct the proposed project. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.

All food and food-related trash items will be enclosed in sealed trash containers at the end of each day and removed completely from the site at least once every 3 days. No pets from project personnel will be allowed anywhere in the proposed project work area during construction. All equipment will be maintained such that there will be no leaks of automotive fluids such as gasoline, oils or solvents and a Spill Response Plan will be prepared.

The project will require 70 workdays. The construction of the project is scheduled to begin in June 2013.

## **B. Environmental setting**

The proposed project is situated in a low-lying area of east of the California North Coast Range. The geographical region is known as the Santa Rosa Plain and the dominant natural feature of the region is a drainage called the Laguna de Santa Rosa.

The project location is a paved transportation facility: a rural highway with one lane in each direction, intersected by a local street with one lane in each direction. This segment of SR 116 serves as a major connector between Highway 101 to the east and the Sebastopol area and the coastal area to the west. The Madrone Avenue intersection serves as one of the access routes to Thomas Page Elementary School.

The intersection of Old Gravenstein Highway and Madrone Ave. is located in an area that is a combination of rural residential, agricultural, and limited commercial land uses, with the rural residential and commercial uses clustered around Old Gravenstein Highway. The more densely populated and more suburban area of Cotati is about a third of a mile to the east. Visually, the immediate vicinity of the project can be characterized as somewhat urbanized, given the close proximity of a trucking concern and a self-storage facility. See Figure 1, page 2.

The facility is bordered by unpaved areas covered with ruderal vegetation. Existing drainage facilities comprise a combination of buried corrugated metal pipe and unlined drainage ditches.

Lead levels in the shallow soil in the Gravenstein corridor have been raised by human activities, i.e., leaded-fuel emissions, but the average for the corridor is not high enough to make surplus soil a hazardous waste. Regulatory databases do not show any known contaminated sites that could impact the project area.

No historic structures have been identified in the immediate vicinity of the project. No archaeological resources are known to be present.

The project area falls within the Santa Rosa Plain Conservation Strategy Area, and portions of the project area are identified by the Strategy as being within 1.3 miles of known breeding sites of the endangered California Tiger Salamander (CTS) (*Ambystoma californiense*), and within designated Critical Habitat for

the distinct Sonoma population of the CTS. Although most of the project area is mapped by the Strategy as developed and unfit for habitat, some suitable upland dispersal habitat for CTS occurs within the project area in the form of open grassland habitat within the dispersal distance of breeding ponds. It is unlikely that the roadside ditches within or near the project area would be a CTS breeding source because the upland habitat is fragmented by development and roadways, the roadside ditches have not been observed to contain a sufficient amount of water to be considered a suitable breeding pond, and the project area has documented CTS predators, such as raccoons, opossums, and feral cats.

Aquatic resources include roadside ditches.

***Consistency with existing zoning, plans, and other applicable land use controls***

The Santa Rosa Plain Conservation Strategy is a comprehensive plan created and implemented by a consortium of local, state, and federal agencies<sup>1</sup> to guide long-term conservation sufficient to mitigate potential adverse effects due to future development within the Santa Rosa Plain on a suite of plant and wildlife species protected under the Federal Endangered Species Act, in addition to habitat for the federally listed California tiger salamander and for four federally endangered plant species. The proposed project is located adjacent to the conservation area boundary established by the Santa Rosa Plain Conservation Strategy. Most of the project area is mapped by the Strategy as “developed”. The project proposes compensation for affects to protected resources and minimization measures incorporated into construction that are consistent with the Strategy.

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<sup>1</sup> The US Fish and Wildlife Service, The California Department of Fish and Game, the US Army Corps of Engineers, the US Environmental Protection Agency, the North Coast Regional Water Quality Control Board, the County of Sonoma , the Cities of Cotati, Rohnert Park, Santa Rosa, and Windsor, the Laguna de Santa Rosa Foundation, and representatives of the local community.

### C. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 9 for additional information.

|                                     |                          |                                     |                                 |                                     |                                    |
|-------------------------------------|--------------------------|-------------------------------------|---------------------------------|-------------------------------------|------------------------------------|
| <input checked="" type="checkbox"/> | Aesthetics               | <input type="checkbox"/>            | Agriculture and Forestry        | <input type="checkbox"/>            | Air Quality                        |
| <input checked="" type="checkbox"/> | Biological Resources     | <input type="checkbox"/>            | Cultural Resources              | <input type="checkbox"/>            | Geology/Soils                      |
| <input type="checkbox"/>            | Greenhouse Gas Emissions | <input type="checkbox"/>            | Hazards and Hazardous Materials | <input checked="" type="checkbox"/> | Hydrology/Water Quality            |
| <input type="checkbox"/>            | Land Use/Planning        | <input type="checkbox"/>            | Mineral Resources               | <input type="checkbox"/>            | Noise                              |
| <input type="checkbox"/>            | Population/Housing       | <input type="checkbox"/>            | Public Services                 | <input type="checkbox"/>            | Recreation                         |
| <input type="checkbox"/>            | Transportation/Traffic   | <input checked="" type="checkbox"/> | Utilities/Service Systems       | <input checked="" type="checkbox"/> | Mandatory Findings of Significance |

### D. DETERMINATION

On the basis of this initial evaluation:

|                                     |  |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.  |
| <input type="checkbox"/>            | I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.   |
| <input type="checkbox"/>            | I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.   |
| <input type="checkbox"/>            | I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| <input type="checkbox"/>            | I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required                                    |

|               |       |
|---------------|-------|
| Signature:    | Date: |
| Printed Name: | For:  |

## Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

### Project Description

The California Department of Transportation (the Department) proposes to improve safety at the intersection of Madrone Ave. and State Route 116 (Old Gravenstein Highway) by including a left-turn lane in each direction on Old Gravenstein Highway. The project will widen the pavement several feet northwards towards Derby Lane to make the needed room. In doing so it will extend drainage culverts to the edge of the new pavement. Drainage ditches that the project will fill will be replaced with new ditches and culverts.

### Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is the Department's intent to adopt an ND for this project. This does not mean that the Department's decision regarding the project is final. This ND is subject to modification based on comments received by interested agencies and the public.

The Department has prepared an Initial Study for this project, and pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

Any effects to natural communities are minimal and are offset by re-establishment of the affected environmental values within the project area, or by purchase of credits at a mitigation bank or through contributions to a similar institution. Any possible contributions to cumulative impacts are minimized by the application of Caltrans BMPs and restrictions on construction to minimize impacts. Tree loss is compensated by replanting and maintaining replacement trees in the project area.

The proposed project would have no effect on traffic/transportation, recreation, public services, growth, agriculture, air quality, cultural resources, geology, greenhouse gasses, hazardous waste, land use, mineral resources, or noise.

In addition, the proposed project would have no significant effect on utilities, or on visual, biological, aquatic, or hydrologic resources.

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James B. Richards  
Deputy District Director  
District 4  
California Department of Transportation

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Date

## E. CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

|   | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>I. AESTHETICS:</b> Would the project:  |                                |                                       |                                     |                                     |
| a) Have a substantial adverse effect on a scenic vista  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

The intersection of Old Gravenstein Highway and Madrone Ave. is located in an area that is a combination of rural residential, agricultural, and limited commercial land uses. The facility is bordered by unpaved areas covered with ruderal vegetation. The immediate vicinity of the project can be characterized as somewhat urbanized, given the close proximity of a trucking concern and a self-storage facility. Existing drainage facilities comprise a combination of buried corrugated metal pipe and unlined drainage ditches.

A sparsely branched oak with a small canopy will be removed, and a ponderosa pine on adjoining private land will be heavily pruned. The trees contribute little visually to the area. As there are no sensitive visual elements in the immediate vicinity of the proposed widening for left turn lanes, and only a relatively small loss of open ground in an area with a relative abundance of unpaved area despite its urbanizing character, there is no visual impact.

**II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project, and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

|  | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact                           |
|--|--------------------------------|---------------------------------------|------------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>     | <input checked="" type="checkbox"/> |

No agricultural lands are affected by the project.

**III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:**

|  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The project will not increase capacity and so will not affect air quality.

**IV. BIOLOGICAL RESOURCES:** Would the project:

|  |                          |                          |                                     |                          |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|

|  | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|--|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?                     | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?                                   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

Project-related construction could potentially directly affect the California Tiger Salamander (CTS) through permanent loss of potential non-breeding upland habitat, and potential harassment or harm if individuals are present during construction. The project will not result in the fragmentation of existing critical habitat and will not modify or destroy CTS critical habitat. The project will also result in the loss of a small amount of potential wetlands and waters as defined under the Clean Water Act.

| Biological Resource                                       | Temporary Impacts(acres) | Permanent Impacts (acres) |
|---|--------------------------|---------------------------|
| Roadside Ditch/Wet Roadside Ditch (Wetlands)              | 0.000                    | 0.003                     |
| Roadside Ditches (Waters)                                 | 0.011                    | 0.000                     |
| California Tiger Salamander (non-breeding upland habitat) | 0.077                    | 0.620                     |

Compensation for impacts will include contributions to approved wetland and CTS compensation banks in the Santa Rosa Plain region, including any banks that can be identified in the North West Conservation Area. Roadside ditches will be relocated where possible in kind at a 1:1 ratio within the project area. A plan will be prepared and will include a description of the proposed off-site compensation.

Caltrans proposes to compensate for permanent effects to potential CTS upland habitat and wetlands through purchase of 1.24 acres at an agency approved mitigation bank. This compensation for loss of habitat is provided as "mitigation" in the sense of Fish & Game Code Sec. 2081(b)(2), under which the Department of Fish and Game requires mitigation measures to address any habitat loss, even if the loss is not significant under CEQA. 0.003 acres (approx. 150 square feet) of ditch wetland will not be replaced by new unlined ditch. In the event that regulatory compliance requires that this area also be replaced, wetland credits will also be

purchased, if it is found that the CTS bank purchase does not also cover wetlands compensation. Prior to the start of construction activities, the biologist(s) will survey the project area for CTS. If CTS is found, the designated biologist shall contact the USFWS and CDFG to determine if relocating the salamander is appropriate. If the USFWS and CDFG approve relocation of animals, the biologist shall be allowed sufficient time to move the salamander from the work site before construction activities begin.

A qualified biological monitor will be onsite each day during construction, and during initial site grading of development sites where CTS presence is inferred. The designated biologist(s) will be active on the project until such time as all construction activities that may result in take of CTS are complete. Before the start of work each morning, the biological monitor will check for animals under any equipment such as vehicles and stored pipes. At the end of each work day, the contractor shall create an escape ramp at each end of any open trench greater than one foot deep, to allow any animals that may have become entrapped in the trench to climb out overnight.

Initial grading and clearing will be conducted between April 15 and October 31, outside the Central and Northern California rainy season, and depending on the level of rainfall and/or site conditions. This time period is when drainages would be either dry or at their lowest water level to minimize potential impacts to species that use the drainage habitats such as migrating California tiger salamander.

The minimal direct effects combined with the implementation of the avoidance and minimization measures incorporated into the project will ensure that the project does not contribute to cumulative effects to CTS.

To the extent practicable, shrub and tree trimming and/or removal activities associated with the proposed project will be conducted outside the nesting season (generally between February 1 and August 31) for migratory birds. If shrub and tree removal is scheduled to occur during the nesting season, a qualified wildlife biologist, familiar with the nesting bird species and habitats in the project area, will conduct preconstruction surveys for nesting birds within suitable nesting habitat in the project area. The nesting bird surveys should be conducted within at least 1 week before initiation of construction activities within those habitats, and during construction throughout the nesting season. If no active nests are detected during surveys, construction may proceed. If active nests are detected then a no-disturbance buffer will be established around active nests identified during preconstruction surveys. The extent of the no-disturbance buffers will be determined by a wildlife biologist in coordination with CDFG and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Within this buffer, all non-essential construction activities (e.g., equipment storage, meetings) should be avoided; however, construction activities can proceed if the biological monitor determines that nesting birds are not likely to abandon the nest during construction.

Caltrans biologists and project engineers held a series of meetings during which biological resource maps and project design maps were compared. The team then focused on determining a means of developing project engineering designs or construction approaches that would reduce impacts to the maximum extent practicable. The outcome of the meetings was an overall reduction of the proposed project footprint or area of impact within special-status species habitat or in sensitive habitat types. As a result, construction of new pavement is restricted to the north side of the roadway to avoid additional impacts to biological resources.

On November 14, 15, and 22, 2011, Caltrans informally consulted (via email) with the USFWS regarding potential effects of the Madrone Avenue left-turn channelization. The proposed project was introduced to Mr. John Cleckler, USFWS, and the general approach taken to date to conduct the analysis was discussed. Mr. Cleckler directed Caltrans to use the 2007 programmatic opinion for the SRPCS as guidance (USFWS 2007). In addition, Stephanie Buss, CDFG Environmental Scientist, conducted a site visit with Caltrans biologists on November 8, 2011. The group observed numerous small animal burrows within the project area, and standing water outside the project area in portions of the ditch adjacent to Derby Road. Based on these observations and

the recorded occurrence of an adult CTS on the north side of Derby Road, Ms. Buss determined that CTS could be present. On January 26, 2012, Caltrans biologists met Mr. Cleckler and Ms. Buss at the project site further to discuss the potential for the roadside ditches within the project area to provide suitable CTS breeding habitat. On January 30, 2012, Dr. Jeff Wilkinson, H.T. Harvey & Associates Senior herpetologist, conducted an assessment of the roadside ditches for use by breeding California tiger salamanders. After considering the best available scientific data and the site conditions, Dr. Jeff Wilkinson concluded that the roadside ditches do not provide viable CTS breeding habitat (based on ponding duration and depth).

**V. CULTURAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

No historic structures have been identified in the immediate vicinity of the project. No archaeological resources are known to be present, and as the project is constructed on areas that have been previously disturbed or are man-made fill, there is little risk of damage to unknown archaeological resources.

|                                |                                       |                              |           |
|--------------------------------|---------------------------------------|------------------------------|-----------|
| Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--------------------------------|---------------------------------------|------------------------------|-----------|

**VI. GEOLOGY AND SOILS:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The project contains no components which would contribute to soil or slope instability. All slopes will be stabilized using standard Caltrans erosion-control BMPs.

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. See [http://www.dot.ca.gov/hq/tpp/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact    Less Than Significant with Mitigation    Less Than Significant Impact    No Impact

**VIII. HAZARDS AND HAZARDOUS MATERIALS:** Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Previous investigations have indicated the presence of aerially deposited lead next to the edge of pavement in this areas, but the project involves little excavation of existing unpaved soil. Soils at a distance from the roadway, at the location of the new ditch, would not contain lead in concentrations that would pose a hazard or trigger regulatory action. Thermoplastic striping would be removed and disposed of in compliance with standard Caltrans procedures.

|                                |                                       |                              |           |
|--------------------------------|---------------------------------------|------------------------------|-----------|
| Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--------------------------------|---------------------------------------|------------------------------|-----------|

**IX. HYDROLOGY AND WATER QUALITY:** Would the project:

- |   |                          |                          |                                     |                                     |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| f) Otherwise substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

The project will add 0.62 acres of impervious area, which includes 0.36 acres of new pavement and 0.26 acres of reworked pavement. The projected total disturbed soil area is 0.95 acres. Additional treatment for increased runoff from this increased impervious area is provided by the biostrips which are a component of this project. Sediment from construction will be minimized by the use of Caltrans's construction best management practices for stormwater.

|                                      |  |                                    |              |
|--------------------------------------|--|------------------------------------|--------------|
| Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact | No<br>Impact |
|--------------------------------------|--|------------------------------------|--------------|

**X. LAND USE AND PLANNING:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The project proposes compensation for affects to protected resources and minimization measures incorporated into construction that are consistent with the Santa Rosa Plain Conservation Strategy.

**XI. MINERAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

There are no documented mineral resources within the project area.

**XII. NOISE:** Would the project result in:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project does not increase capacity and should improve congestion at the intersection. As such, it would not introduce new noise impacts or increase noise levels. Construction noise would be temporary and would be within acceptable levels for construction activity as specified by local plans.

|                                |                                       |                              |           |
|--------------------------------|---------------------------------------|------------------------------|-----------|
| Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--------------------------------|---------------------------------------|------------------------------|-----------|

**XIII. POPULATION AND HOUSING:** Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No additional residential or commercial right-of-way is required to construct this project. As such, no displacements will occur.

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

Caltrans will prepare a Traffic Management Plan that will ensure accessibility through the project area for vehicles associated with essential services, and to the nearby school. Project construction should yield a benefit to public services by reducing congestion at the intersection.

|  | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---------------------------------------|------------------------------|-----------|
|--|--------------------------------|---------------------------------------|------------------------------|-----------|

**XV. RECREATION:**

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The project does not include any recreational areas.

**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

To maintain the flow of traffic during construction, Caltrans will prepare a Traffic Management Plan that will ensure accessibility through the project area for vehicles associated with essential services, and to the nearby school. Project construction should yield a benefit to public services by reducing congestion at the intersection.

|   | Potentially Significant Impact | Less Than Significant with Mitigation | Less Than Significant Impact        | No Impact                           |
|---|--------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|
| <b>XVII. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:  |                                |                                       |                                     |                                     |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                            | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?                                     | <input type="checkbox"/>       | <input type="checkbox"/>              | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?   | <input type="checkbox"/>       | <input type="checkbox"/>              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

The project proposes alterations to existing drainage facilities and will add 0.5 acres of additional impervious area. Additional treatment for increased runoff from this new impervious area is provided by the biostrips which are a component of this project. The total volume of additional runoff flowing away from the project area will not cause increases that will result in impacts for the connecting drainage systems, and improvements to local drainage should reduce local flooding.

|                                      |  |                                    |              |
|--------------------------------------|--|------------------------------------|--------------|
| Potentially<br>Significant<br>Impact | Less Than<br>Significant<br>with<br>Mitigation | Less Than<br>Significant<br>Impact | No<br>Impact |
|--------------------------------------|--|------------------------------------|--------------|

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

- |  |                          |                          |                                     |                                     |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Caltrans's application of best management practices; the re-establishment of ditches and vegetation in kind, and at increased ratios for oaks; incorporation of minimization measures into project construction; and compensation for losses to protected natural communities ensure that there are no residual impacts from this project that can contribute to cumulative impacts.

## **Appendix A: References**

Madrone Channelization Project Natural Environment Survey. Caltrans District 4 Office of Biological Studies and Permits, Oakland, CA, March 2012

Sonoma 116 Left Turn Channelization Visual Impact Analysis, Caltrans District 4 Office of Landscape Architecture, February 2012.

Section 106 Review of the Madrone Ave. Safety Project on HWWY 116, PM 2.09/34.47 in Sonoma County, California. Caltrans District 4 Office of Cultural Studies, August 2010.

Section 106 Reassessment/Revalidation and CEQA/5024 Review of Madrone Road and SON-116 (PM 34.09/34.47) Left-Turn Channelization, Unincorporated Sonoma County. Caltrans District 4 Office of Cultural Studies, December 2011.

Santa Rosa Plain Conservation Strategy. U.S. Fish and Wildlife Service. February 28, 2012.  
<[http://www.fws.gov/sacramento/ES/Recovery-Planning/Santa-Rosa/es\\_recovery\\_santa-rosa-strategy.htm](http://www.fws.gov/sacramento/ES/Recovery-Planning/Santa-Rosa/es_recovery_santa-rosa-strategy.htm)>

Water Quality Study. Caltrans Office of Environmental Engineering, January, 2010, revised March 2012.

Chris Wilson, "Re: Madrone Channelization", e-mail to Oliver Iberien. August 5, 2010.

Glenn Kinoshita, "Comments from the Air/Noise/Energy Branch". Memorandum, Caltrans Office of Environmental Engineering, November 8, 2011

Chris Wilson, "Comments from the Hazardous Waste Branch". Memorandum, Caltrans Office of Environmental Engineering, December 27, 2011

Chris Wilson, "Comments from the Hazardous Waste Branch". Memorandum, Caltrans Office of Environmental Engineering, June 6, 2011

Chris Wilson, "Comments from the Hazardous Waste Branch". Memorandum, Caltrans Office of Environmental Engineering, January 3, 2010

## Appendix B: Notice of Intent to Adopt a Negative Declaration

**PUBLIC NOTICE**  
**Notice of comment period until April 30, 2012 for  
the Initial Study for the Madrone Ave. Left-Turn Channelization Project**

Caltrans plans to improve safety at the intersection of Madrone Ave. and State Route 116 (Old Gravenstein Highway) by including a left-turn lane in each direction on Old Gravenstein Highway. The project will widen the pavement several feet northwards towards Derby Lane to make the needed room. In doing so, it will extend drainage culverts to the edge of the new pavement. Drainage ditches that the project will fill will be replaced with new ditches and culverts.

The California Environmental Quality Act requires that Caltrans disclose the projected environmental impacts of this project, and allow the public a set period of time in which to comment on the Initial Study (IS) that Caltrans has prepared to document its assessment.

Our assessment is that the project will result in small impacts to marginal habitat for the endangered California Tiger Salamander; to wetlands, in the form of ditches; and to water quality, due to a small increase in paved surface area. These impacts are not considered significant, but Caltrans will minimize them by providing for replacement habitat in Sonoma County, and by incorporating stormwater runoff treatment on the project site. The project will also provide three replacement oak trees on the project site for a tree that will be removed.

On the basis of the Initial Study, Caltrans intends to adopt a negative declaration under CEQA. The IS is available for download at <http://www.dot.ca.gov/dist4/envdocs.htm>. To request a print copy, or an open-house presentation of the project by Caltrans staff, write to Caltrans District 4, Attn: V. Shearer, PO Box 23660 MS 8B, Oakland, CA 94623-0660.

 The public may send comments about Caltrans projects at any time, but the official comment period is your opportunity to have your comments addressed as part of the legally mandated environmental-review process. Caltrans will respond to comments in the final version of the IS. Email your comments to the email address indicated in the IS, or send postal mail to the address given above. Comments must be received by 5:00 p.m. on April 30, 2012.

2576988 - Pub. Mar. 31, 2012 11.

Advertisement run in the Santa Rosa Press-Democrat, March 31, 2012

Appendix C: Notice of Determination (DRAFT)

Notice of Determination

Appendix D

To:

[X] Office of Planning and Research
U.S. Mail: P.O. Box 3044 Sacramento, CA 95812-3044
Street Address: 1400 Tenth St., Rm 113 Sacramento, CA 95814

[ ] County Clerk
County of:
Address:

From:

Public Agency: Department of Transportation
Address: 111 Grand Ave. Oakland, CA 94512
Contact: Melanie Brent
Phone:

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse):

Project Title: Macrone Ave. Left-Turn Channelization Project

Project Applicant: Department of Transportation, District 4

Project Location (include county): Cotati, CA

Project Description:

Caltrans plans to improve safety at the intersection of Madrone Ave. and State Route 116 (Old Gravenstein Highway) by including a left turn lane in each direction on Old Gravenstein Highway.

The project will widen the pavement several feet northwards towards Derby Lane to make the needed room. In doing so it will extend drainage culverts to the edge of the new pavement. Drainage ditches that the project will fill will be replaced with new ditches and culverts.

This is to advise that the Department of Transportation has approved the above (X) Lead Agency or ( ) Responsible Agency

described project on (date) and has made the following determinations regarding the above described project.

- 1. The project [ ] will [X] will not have a significant effect on the environment.
2. [ ] An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. [X] A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [ ] were [X] were not made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [ ] was [X] was not adopted for this project.
5. A statement of Overriding Considerations [ ] was [X] was not adopted for this project.
6. Findings [ ] were [X] were not made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

Signature (Public Agency): Title:

Date: Date Received for filing at OPR:

## **Appendix D: List of Preparers**

|                      |   |
|----------------------|---|
| Darcangelo, Jennifer | Caltrans District 4 Office of Cultural Studies                |
| Green, Kirsten       | Caltrans District 4 Office of Cultural Studies                |
| Iberien, Oliver      | Caltrans District 4 Office of Environmental Analysis          |
| Kinoshita, Glenn     | Caltrans District 4 Office of Environmental Engineering       |
| Lindsay, Susan       | Caltrans District 4 Office of Landscape Architecture          |
| Martinez, Fernando   | Caltrans District 04 Office of Biological Studies and Permits |
| Martono, Wilfung     | Caltrans District 4 Office of Environmental Engineering       |
| Massarweh, Anthony   | Caltrans District 4 Office of Landscape Architecture          |
| Mc, Kee, Lissa       | Caltrans District 4 Office of Cultural Studies                |
| Montero, Carie       | Caltrans District 4 Office of Cultural Studies                |
| Uribe, Ana           | Caltrans District 4 Office of Environmental Engineering       |
| Wilson, Christopher  | Caltrans District 4 Office of Environmental Engineering       |

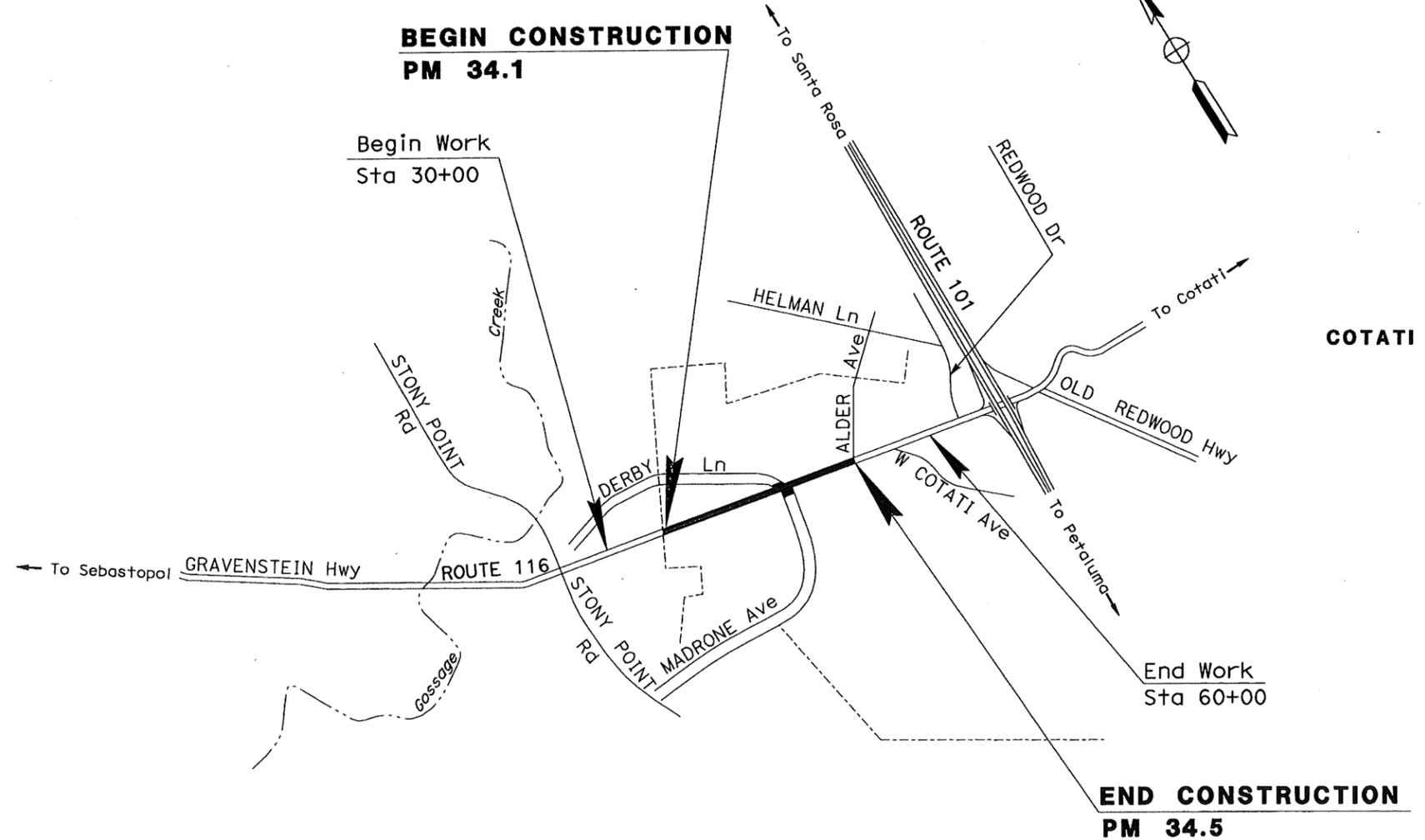
## **Appendix E: Project Plans**

INDEX OF PLANS

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY  
 IN SONOMA COUNTY  
 IN COTATI  
 FROM EAST OF STONEY POINT ROAD  
 TO ALDER AVENUE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
|------|--------|-------|-----------------------------|--------------|-----------------|
| 04   | SON    | 116   | 34.09/34.47                 |              |                 |



NO SCALE

PROJECT MANAGER  
A

DESIGN ENGINEER  
A

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES)  
 OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

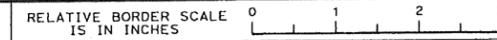
PROJECT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE \_\_\_\_\_

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



|              |                   |
|--------------|-------------------|
| CONTRACT No. | <b>04-1G2404</b>  |
| PROJECT ID   | <b>0400020025</b> |



DATE PLOTTED => 15-SEP-2011  
 TIME PLOTTED => 10:54  
 LAST REVISION 09-15-11



| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 04   | Son    | 116   | 34.09/34.47              |           |              |

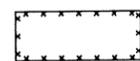


REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

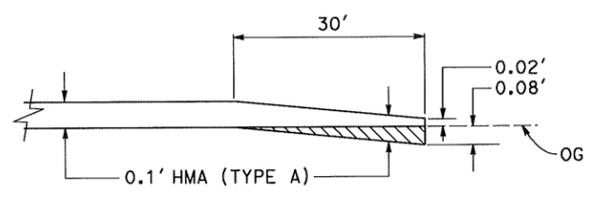
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

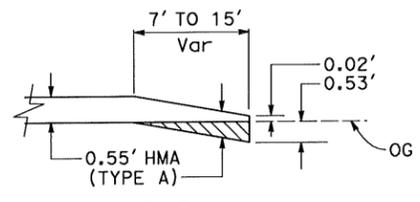
-  PAVING CONFORM
-  STRUCTURAL SECTION NUMBER

**NOTES:**

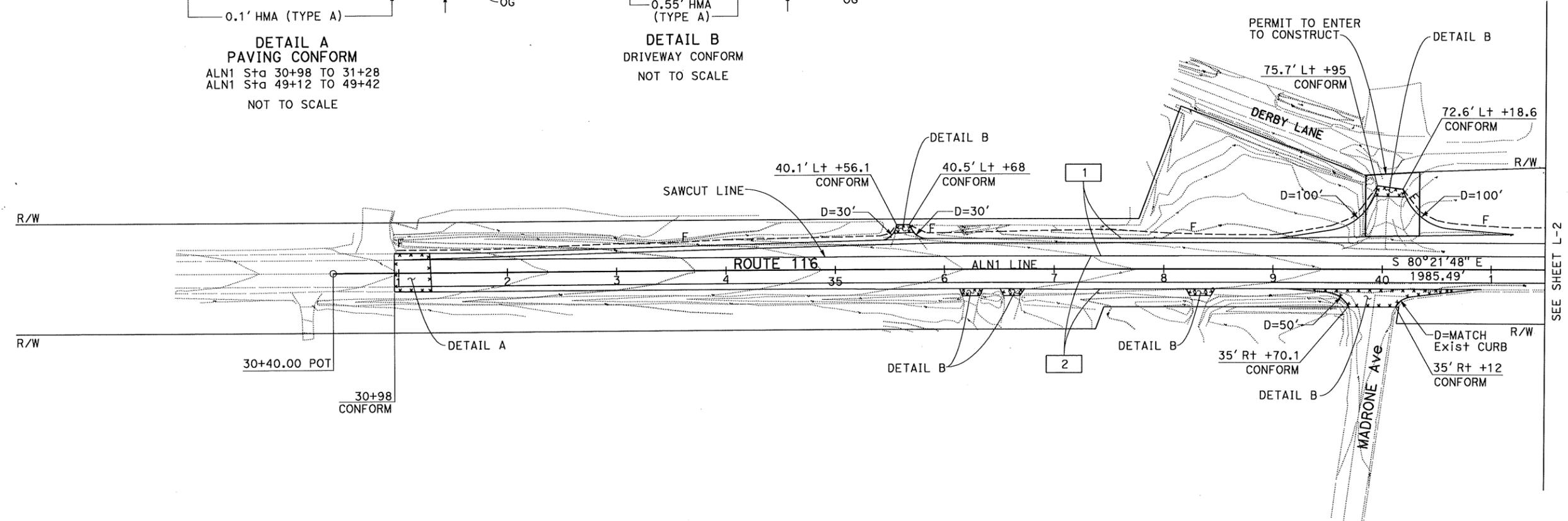
1. EXACT LOCATIONS OF DRIVEWAY CONFORM AS DIRECTED BY ENGINEER (DETAIL B).
2. FOR PAVING CONFORM DETAIL, SEE DETAIL A.



**DETAIL A**  
 PAVING CONFORM  
 ALN1 Sta 30+98 TO 31+28  
 ALN1 Sta 49+12 TO 49+42  
 NOT TO SCALE



**DETAIL B**  
 DRIVEWAY CONFORM  
 NOT TO SCALE



SEE SHEET L-2

**LAYOUT**  
 SCALE: 1" = 50'

**L-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN  
 Et-Cubans  
 FUNCTIONAL SUPERVISOR  
 CALCULATED, DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED  
 x  
 x  
 x  
 x  
 x



| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 04   | Son    | 116   | 34.09/34.47              |           |              |

*Jennifer Egawa*  
 LICENSED LANDSCAPE ARCHITECT  
 STATE OF CALIFORNIA  
 No. 5086

**DRAFT**

PLANS APPROVAL DATE: 10-24-11

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

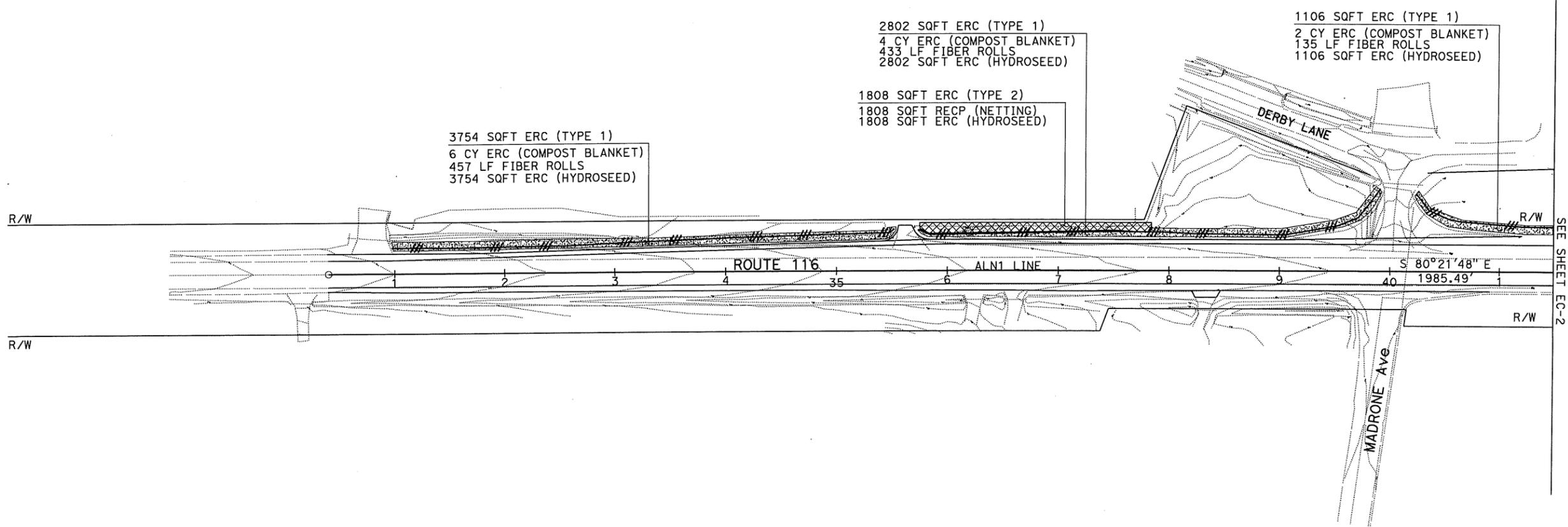
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

- EROSION CONTROL (TYPE 1)**
- EROSION CONTROL (COMPOST BLANKET)
  - FIBER ROLLS
  - EROSION CONTROL (HYDROSEED)
- EROSION CONTROL (TYPE 2)**
- ROLLED EROSION CONTROL PRODUCT (NETTING)
  - EROSION CONTROL (HYDROSEED)
- FIBER ROLLS

**ABBREVIATIONS:**

- ERC EROSION CONTROL  
 RECP ROLLED EROSION CONTROL PRODUCT



|                |      |          |
|----------------|------|----------|
| REVISOR        | DATE | REVISION |
| JENNIFER EGAWA |      |          |
| ALEX MCDONALD  |      |          |
| DAVID YAM      |      |          |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Water Quality**

**EROSION CONTROL PLAN**

SCALE: 1" = 50'

**EC-1**

APPROVED FOR EROSION CONTROL WORK ONLY

LAST REVISION    DATE PLOTTED => 30-NOV-2011    TIME PLOTTED => 07:38

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 04   | Son    | 116   | 34.09/34.47              |           |              |

*Jennifer Egawa* **DRAFT**  
 LICENSED LANDSCAPE ARCHITECT

PLANS APPROVAL DATE: 7-31-12  
 SIGNATURE: *Jennifer Egawa*  
 DATE: 10-24-11

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

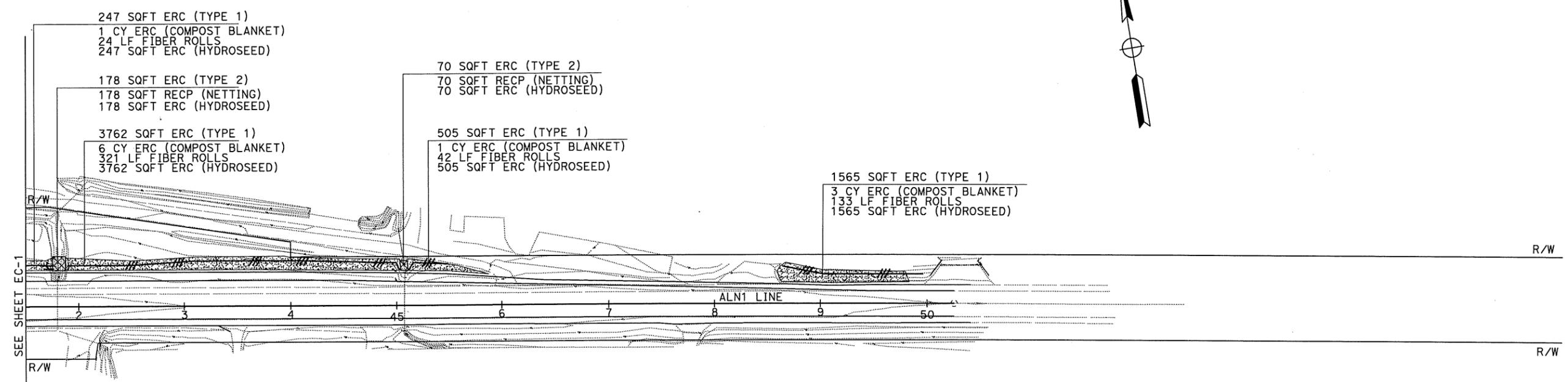
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** WATER QUALITY

SENIOR LANDSCAPE ARCHITECT: DAVID YAM

CHECKED BY: JENNIFER EGAWA, ALEX MCDONALD

DESIGNED BY: JENNIFER EGAWA, ALEX MCDONALD



**EROSION CONTROL PLAN AND QUANTITIES**  
 SCALE: 1" = 50'

APPROVED FOR EROSION CONTROL WORK ONLY

**EC-2**

LAST REVISION: 10-24-11 DATE PLOTTED => 30-NOV-2011 TIME PLOTTED => 07:38

|      |        |       |                             |              |                 |
|------|--------|-------|-----------------------------|--------------|-----------------|
| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
| 04   | Son    | 116   | 34.09/34.47                 |              |                 |

**DRAFT**

PLANS APPROVAL DATE: 10-24-11

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**EROSION CONTROL QUANTITIES**

| SHEET NUMBER | EROSION CONTROL (COMPOST BLANKET) | FIBER ROLLS | EROSION CONTROL (HYDROSEED) | ROLLED EROSION CONTROL PRODUCT (NETTING) |
|--------------|-----------------------------------|-------------|-----------------------------|--|
|              | CY                                | LF          | SQFT                        | SQFT                                     |
| EC-1         | 12                                | 1025        | 9470                        | 1808                                     |
| EC-2         | 11                                | 520         | 6258                        | 248                                      |
| <b>TOTAL</b> | <b>23</b>                         | <b>1545</b> | <b>15,728</b>               | <b>2056</b>                              |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - WATER QUALITY

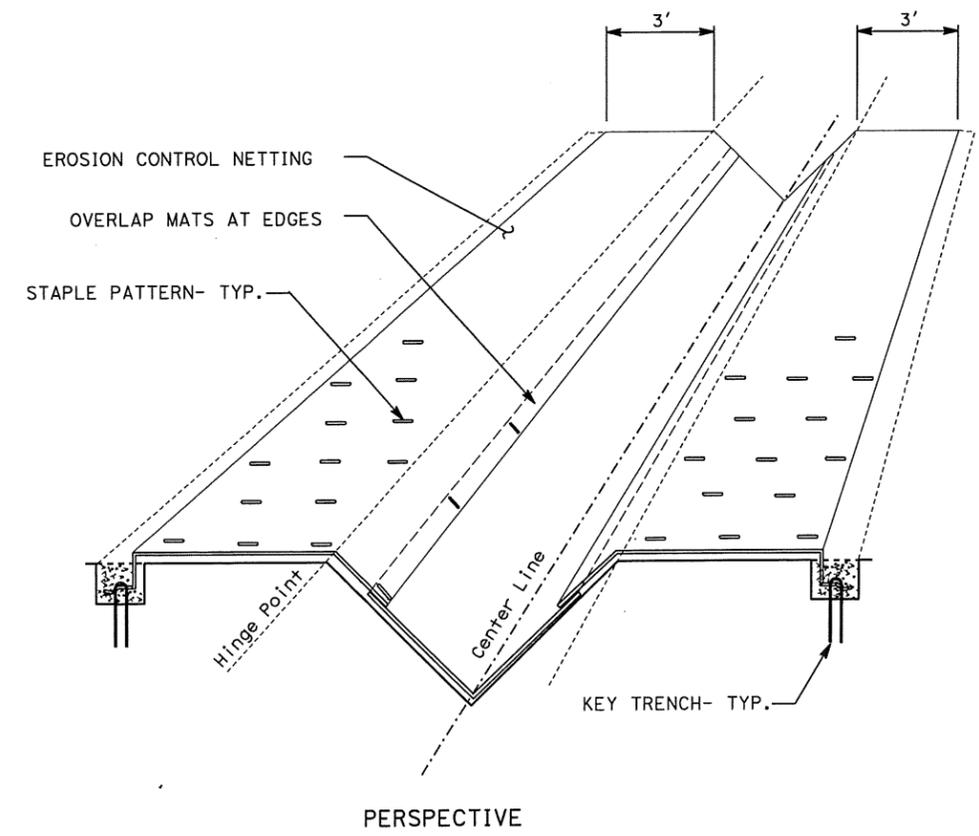
SENIOR LANDSCAPE ARCHITECT: DAVID YAM

CALCULATED-DESIGNED BY: JENNIFER EGAWA

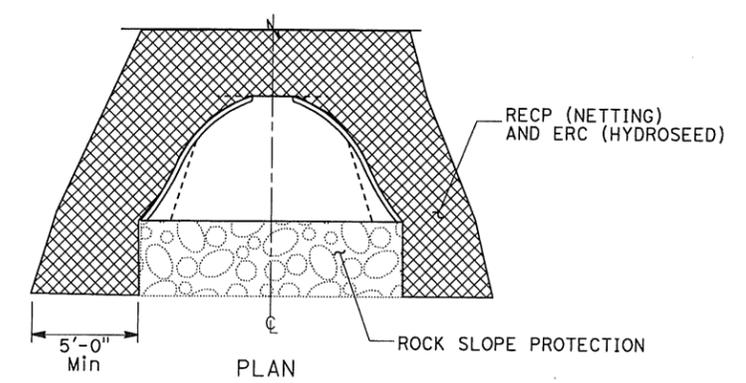
CHECKED BY: ALEX MCDONALD

REVISED BY: [ ]

DATE REVISED: [ ]



**ROLLED EROSION CONTROL PRODUCT (NETTING) IN UNLINED V-DITCH**



**ROLLED EROSION CONTROL PRODUCT (NETTING) AT FLARED END SECTION- TYP.**

**EROSION CONTROL DETAILS AND QUANTITIES**  
NO SCALE **ECD-1**

APPROVED FOR EROSION CONTROL WORK ONLY

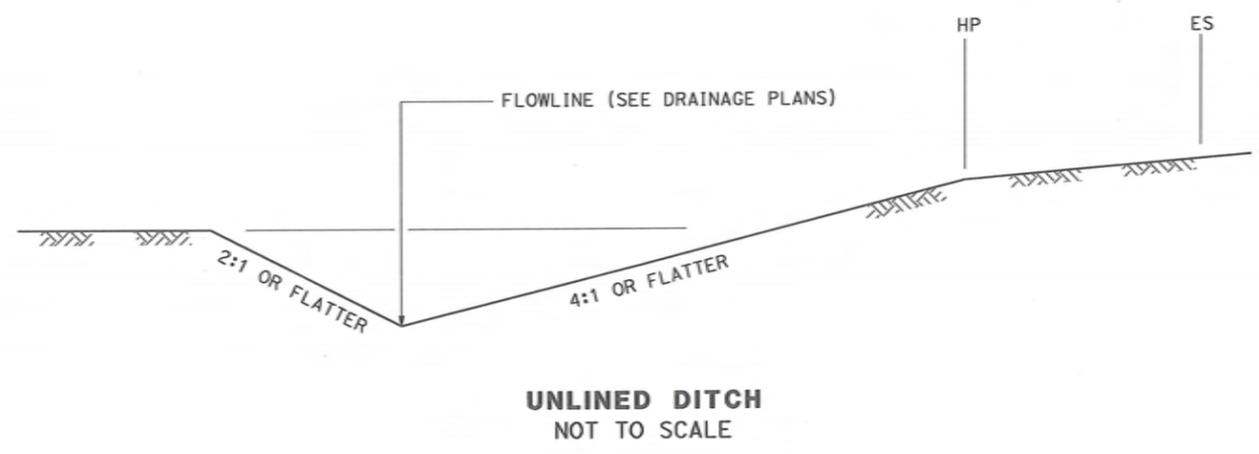
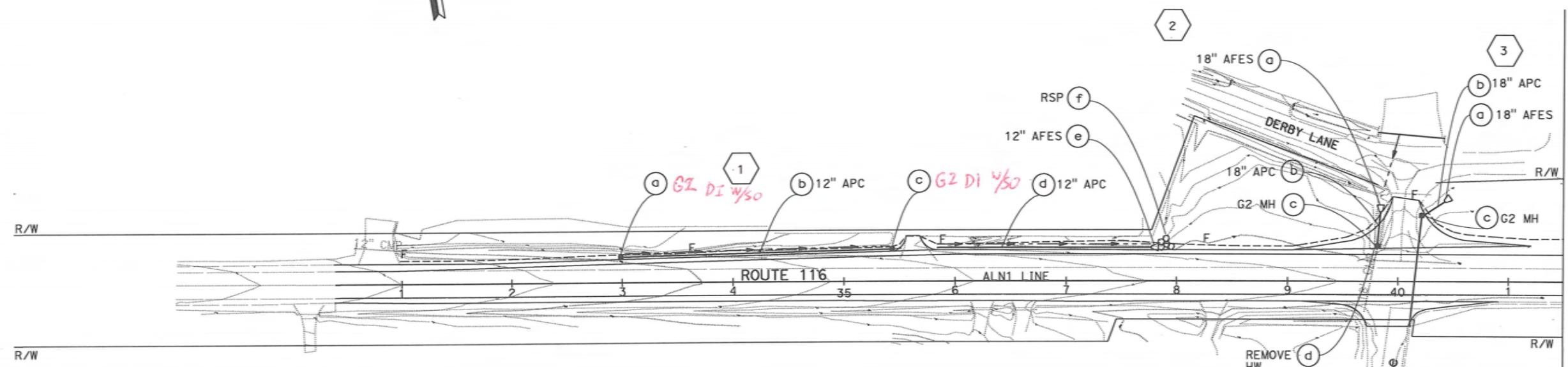
LAST REVISION: 10-24-11    DATE PLOTTED => 30-NOV-2011    TIME PLOTTED => 07:39

|  |        |       |                          |           |              |
|--|--------|-------|--------------------------|-----------|--------------|
| Dist   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |
| REGISTERED CIVIL ENGINEER  |        | DATE  |                          |           |              |
| PLANS APPROVAL DATE  |        |       |                          |           |              |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |        |       |                          |           |              |



**LEGEND**

- No. DRAINAGE SYSTEM NUMBER
- a DRAINAGE UNIT



APPROVED FOR DRAINAGE WORK ONLY

**DRAINAGE PLAN**  
SCALE: 1" = 50'

**D-1**

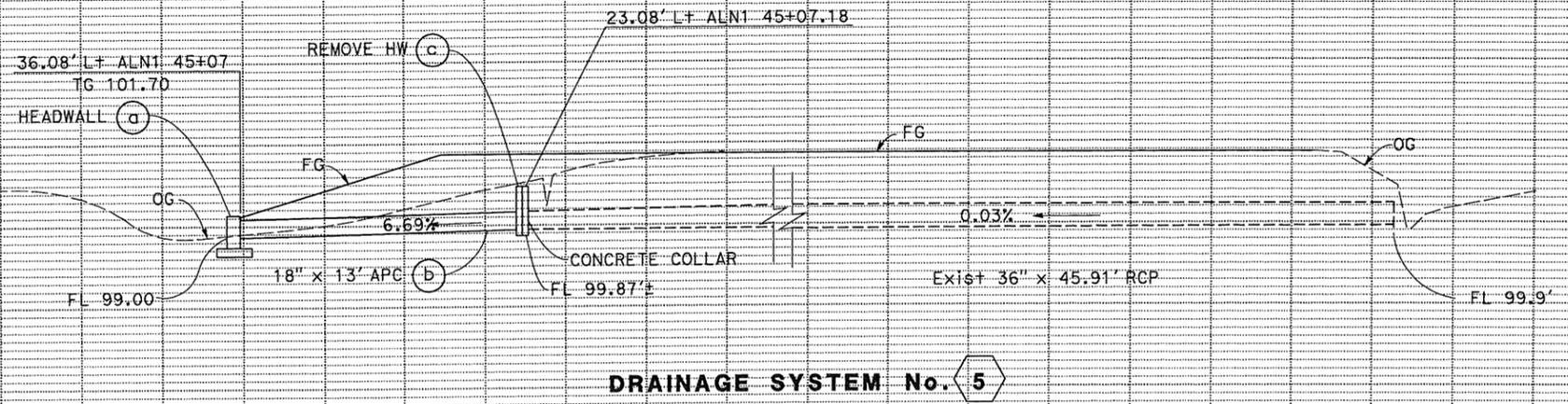
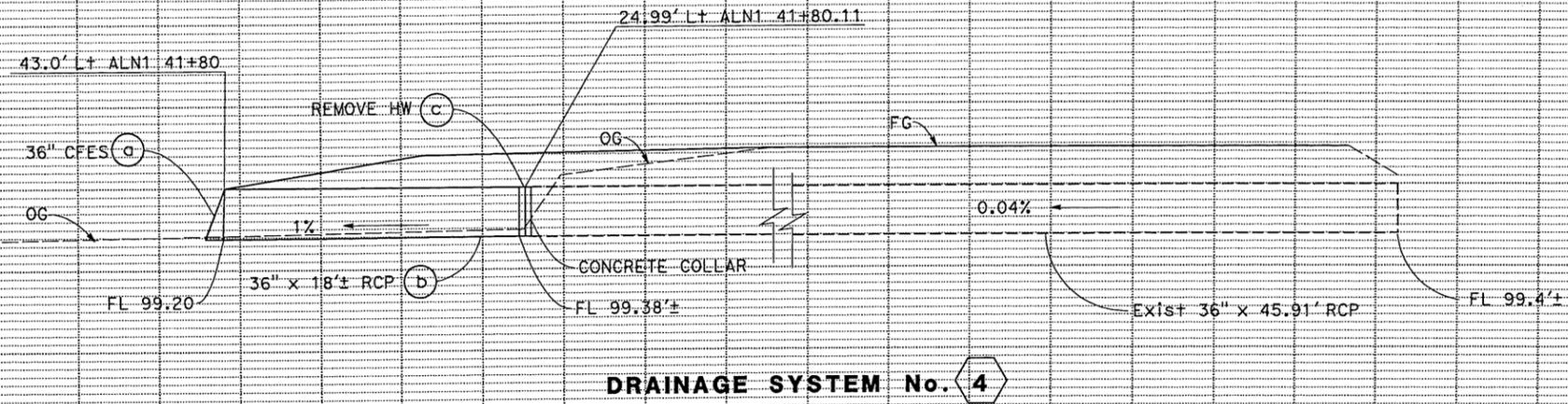
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED





|  |        |       |                          |           |   |
|--|--------|-------|--------------------------|-----------|---|
| Dist   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS  |
| 04   | Son    | 116   | 34.0/34.5                |           |   |
| REGISTERED CIVIL ENGINEER DATE   |        |       |                          |           |  |
| PLANS APPROVAL DATE  |        |       |                          |           |   |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |        |       |                          |           |   |

|   |                        |   |
|---|------------------------|---|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION<br><b>Caltrans</b> | FUNCTIONAL SUPERVISOR  | A |
|   | CALCULATED-DESIGNED BY |   |
| HYDRAULICS  | CHECKED BY             |   |
|   | REVISOR                | A |
| DATE  | 110                    |   |
| DATE  | 105                    |   |
| DATE  | 100                    |   |
| DATE  | 95                     |   |



**DRAINAGE PROFILES**  
 SCALE: HORIZ 1" = 5'  
 VERT 1" = 5'  
**DP-2**

DATE PLOTTED => 30-NOV-2011  
 TIME PLOTTED => 15:51  
 LAST REVISION 11-28-11

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

### DRAINAGE QUANTITIES

| DRAINAGE SHEET No. | DRAINAGE SYSTEM No. |   | FT  | FT | FT | EA | EA | EA | CY | SQFT | EA | EA | EA | U45 MANHOLE (N) | HEIGHT OF INLET OR MH (N) | CY   | LB  | EA | DESCRIPTION             | STATION   | DRAINAGE SYSTEM No. |   |
|--------------------|---------------------|---|-----|----|----|----|----|----|----|------|----|----|----|-----------------|---------------------------|------|-----|----|-------------------------|---|---------------------|---|
|                    | ○                   | ○ |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    |                         |   | ○                   | ○ |
| D-1                | a                   | 1 |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | G2 DI WITH SIDE OPENING | 23.83' Lt ALN1 33+00                            | D-1                 | a |
|                    | b                   |   | 240 |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 12" APC                 | 27.94' Lt ALN1 33+00 TO 30.71' Lt ALN1 35+40    |                     | b |
|                    | c                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | G2 DI WITH SIDE OPENING | 29.60' Lt ALN1 35+40                            |                     | c |
| D-1                | d                   |   | 240 |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 12" APC                 | 31.69' Lt ALN1 35+40 TO 34.5' Lt ALN1 37+80     |                     | d |
|                    | e                   |   |     |    |    | 1  |    |    |    |      |    |    |    |                 |                           |      |     |    | 12" AFES                | 37.69' Lt ALN1 37+80                            |                     | e |
|                    | f                   |   |     |    |    |    |    | 2  | 54 |      |    |    |    |                 |                           |      |     |    | RSP                     | 37.69' Lt ALN1 37+80                            |                     | f |
| D-1                | a                   | 2 |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 18" AFES                | 60.8' Lt ALN1 39+80                             | D-1                 | a |
|                    | b                   |   |     | 30 |    |    | 1  |    |    |      |    |    |    |                 |                           |      |     |    | 18" APC                 | 60.8' Lt ALN1 39+80 TO 30.73' Lt ALN1 39+82.55  |                     | b |
|                    | c                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     | 1  | REMOVE HEAD WALL        | 30.73' Lt ALN1 39+82.55                         |                     | c |
| D-1                | d                   |   |     |    |    |    |    |    |    |      |    |    |    | 1               | 1.76                      | 235  |     |    | G2 MH                   | 30.73' Lt ALN1 39+82.55                         |                     | d |
|                    | a                   | 3 |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 18" AFES                | 66.27' Lt ALN1 40+30                            | D-1                 | a |
|                    | b                   |   |     | 18 |    |    | 1  |    |    |      |    |    |    |                 |                           |      |     |    | 18" APC                 | 60.27' Lt ALN1 40+30 TO 57.27' Lt ALN1 40+21.21 |                     | b |
| D-2                | c                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | G2 MH                   | 57.27' Lt ALN1 40+21.21                         |                     | c |
|                    | a                   | 4 |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 36" APC                 | 43.0' Lt ALN1 41+80                             | D-2                 | a |
|                    | b                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 36" AFES                | 43.00' Lt ALN1 41+80 TO 24.99' Lt ALN1 40+80.11 |                     | b |
| D-2                | c                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | REMOVE HEAD WALL        | 24.99' Lt ALN1 41+80.11                         |                     | c |
|                    | a                   | 5 |     |    |    |    |    |    |    |      |    |    |    |                 |                           | 0.91 | 50  |    | HEAD WALL               | 36.08' Lt ALN1 45+07                            | D-2                 | a |
|                    | b                   |   |     | 13 |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | 18" APC                 | 36.08' Lt ALN1 45+07 TO 23.08' Lt ALN1 45+07.18 |                     | b |
| SHEET TOTAL        | c                   |   |     |    |    |    |    |    |    |      |    |    |    |                 |                           |      |     |    | REMOVE HEAD WALL        | 23.08' Lt ALN1 45+07.18                         |                     | c |
|                    |                     |   | 480 | 61 | 18 | 1  | 2  | 1  | 2  | 54   | 2  | 2  | 2  | 2               | 5.8                       | 6.76 | 998 | 3  |                         |   | SHEET TOTAL         |   |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** HYDRAULICS

FUNCTIONAL SUPERVISOR  
A

CALCULATED-DESIGNED BY  
A

CHECKED BY  
A

REVISED BY  
A

DATE REVISED  
A

## DRAINAGE QUANTITIES DQ-1

LAST REVISION DATE PLOTTED => 30-NOV-2011 TIME PLOTTED => 15:52

|  |        |       |                          |           |              |
|--|--------|-------|--------------------------|-----------|--------------|
| Dist   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |
| REGISTERED CIVIL ENGINEER  |        |       |                          |           | DATE         |
| PLANS APPROVAL DATE  |        |       |                          |           |              |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |        |       |                          |           |              |

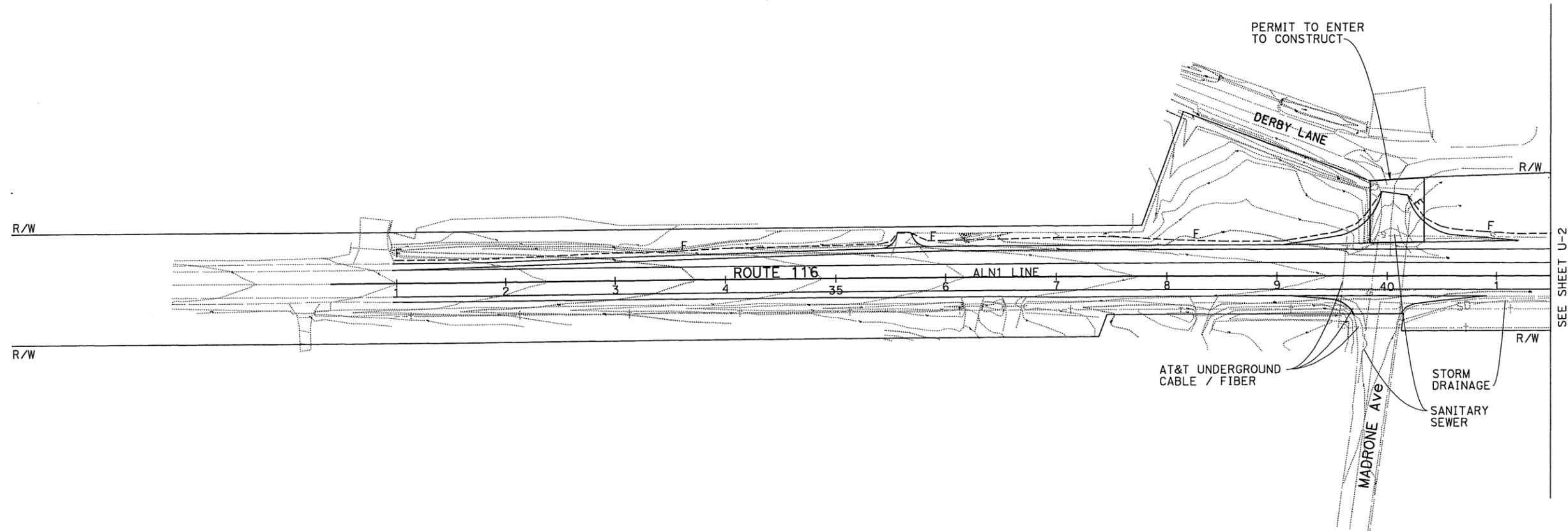


**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**NOTES:**

- 1 UTILITIES SHOWN ARE EXISTING AND LOCATIONS ARE APPROXIMATE EXCEPT AS NOTED.
- 2 LOCATIONS OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR.

|                  |                |                           |                  |
|------------------|----------------|---------------------------|------------------|
| <b>UTILITIES</b> | <b>LEGEND:</b> | <b>EXISTING UTILITIES</b> | <b>OWNERSHIP</b> |
| UG TELEPHONE     | ---            | ---                       | AT&T             |
| SANITARY SEWER   | ---            | ---                       | CITY OF COTATI   |
| STORM DRAIN      | ---            | ---                       | SD               |



SEE SHEET U-2

**UTILITY PLAN**  
SCALE: 1" = 50'

**U-1**

APPROVED FOR UTILITY INFORMATION ONLY

|  |            |
|--|------------|
| STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION | DESIGN     |
| FUNCTIONAL SUPERVISOR                              | CHECKED BY |
| REVISOR  | DATE       |
| DESIGNED BY  | DATE       |
| CHECKED BY   | DATE       |

DATE PLOTTED => 30-NOV-2011  
TIME PLOTTED => 08:02  
LAST REVISION 11-29-11

| Dist | COUNTY | ROUTE | POST MILES<br>TOTAL PROJECT | SHEET<br>No. | TOTAL<br>SHEETS |
|------|--------|-------|-----------------------------|--------------|-----------------|
| 04   | Son    | 116   | 34.09/34.47                 |              |                 |

REGISTERED CIVIL ENGINEER    DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

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**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT  
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
DESIGN

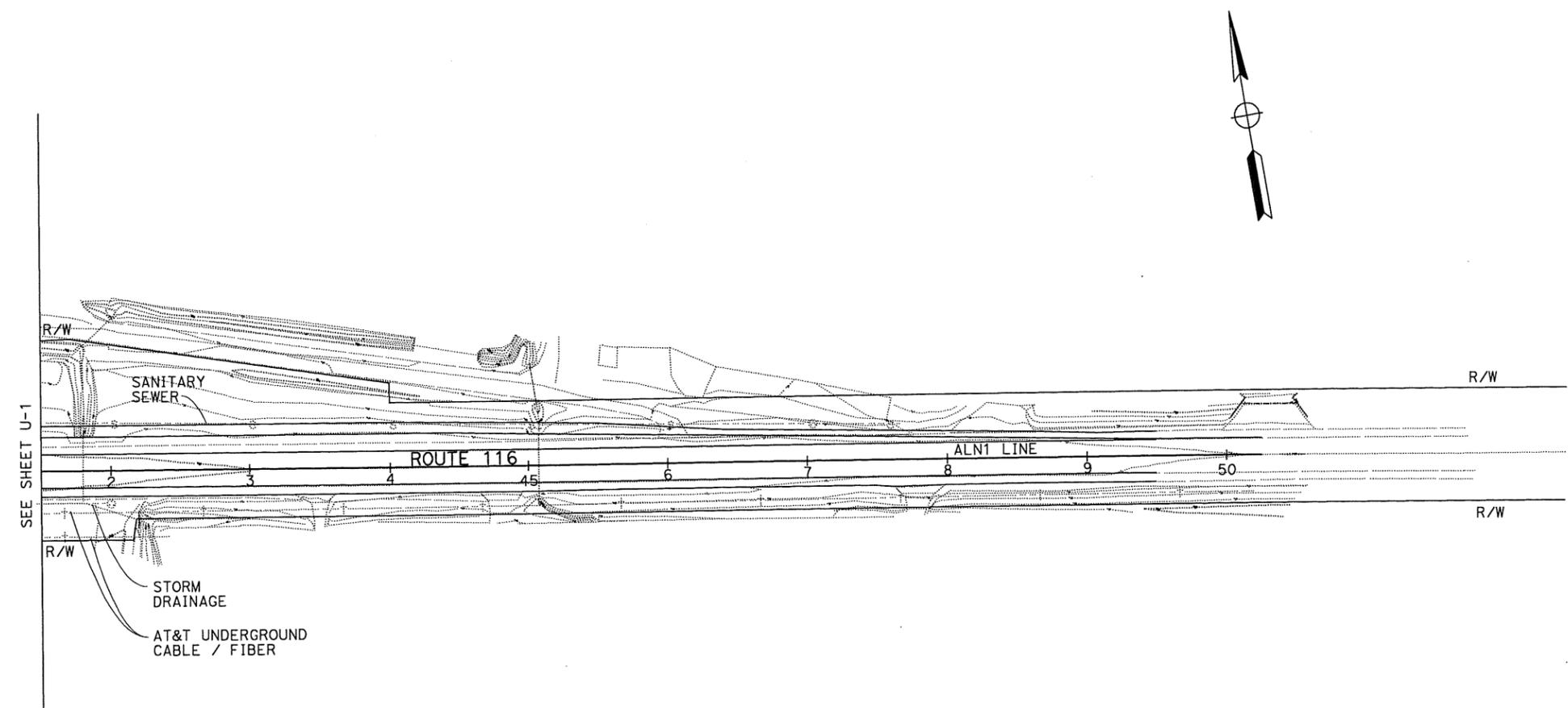
FUNCTIONAL SUPERVISOR

CALCULATED-  
DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED



**UTILITY PLAN**  
SCALE: 1" = 50'

**U-2**

APPROVED FOR UTILITY WORK ONLY

FOR NOTES, ABBREVIATIONS  
AND LEGEND, SEE SHEET U-1

| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 04   | Son    | 116   | 34.09/34.47              |           |              |

|                           |      |
|---------------------------|------|
| REGISTERED CIVIL ENGINEER | DATE |
| PLANS APPROVAL DATE       |      |

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



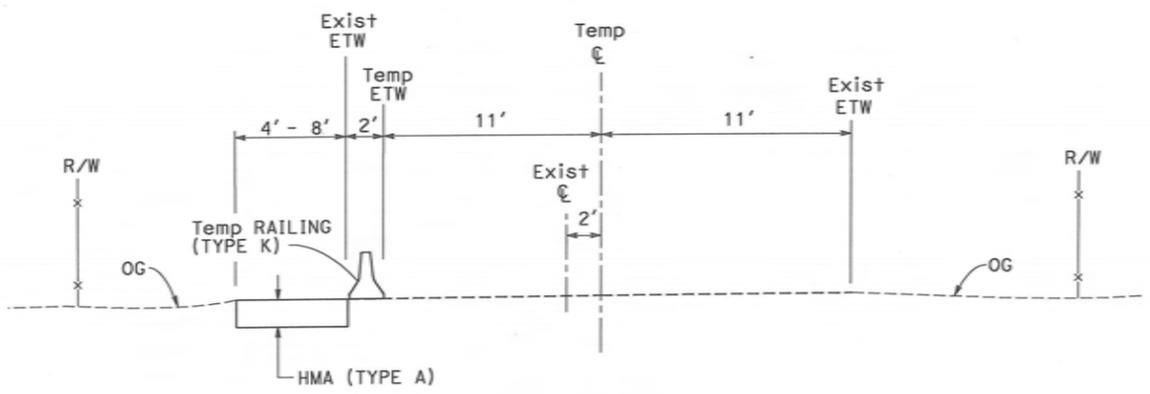
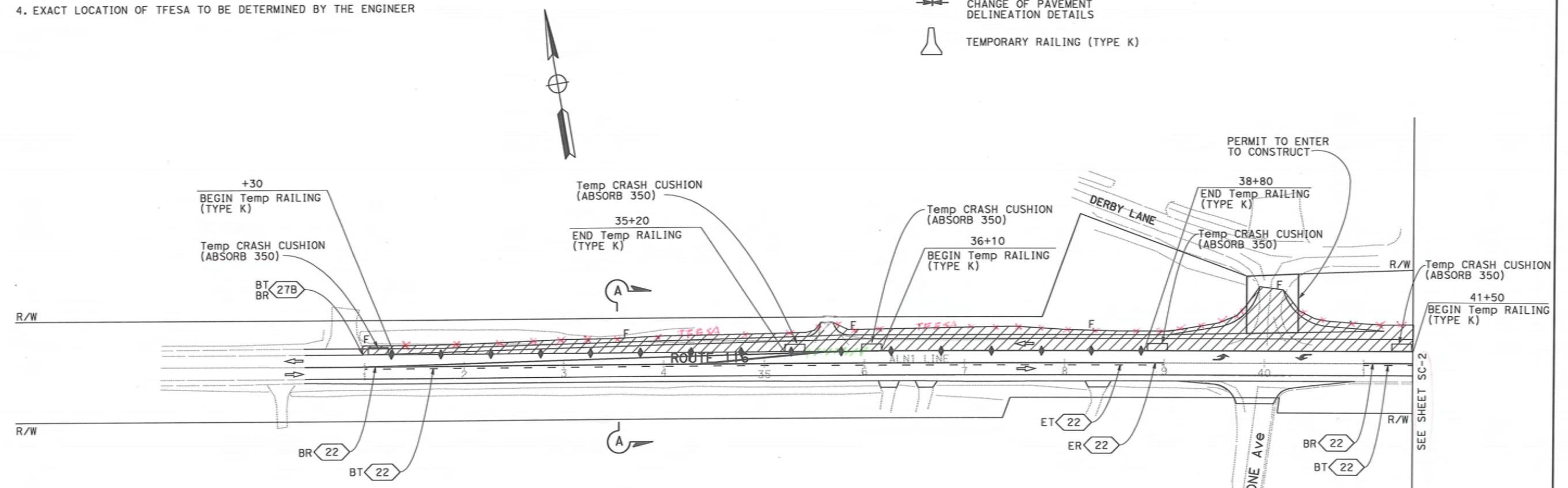
**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ABBREVIATION:**  
TFESA: TEMPORARY FENCE ENVIRONMENTALLY SENSITIVE EASEMENT AREA AND TEMPORARY PERIMETER BARRIER

**LEGEND:**

- CONSTRUCT THIS STAGE
- Temp RAILING (TYPE K)
- BR (No.) BEGIN REMOVAL PAVEMENT DELINEATION
- ER (No.) END REMOVAL PAVEMENT DELINEATION
- BT (No.) BEGIN TEMPORARY TRAFFIC STRIPE (PAINT)
- ET (No.) END TEMPORARY TRAFFIC STRIPE (PAINT)
- TFESA\*- TFESA
- CHANGE OF PAVEMENT DELINEATION DETAILS
- TEMPORARY RAILING (TYPE K)

- NOTES:**
- ALL DRIVEWAYS TO REMAIN OPEN ALL THE TIME.
  - ALL POST MILE MARKERS TO BE PRESERVED & REINSTALLED.
  - EASTBOUND WIDENING MUST BE COMPLETED PRIOR TO WESTBOUND WIDENING.
  - EXACT LOCATION OF TFESA TO BE DETERMINED BY THE ENGINEER



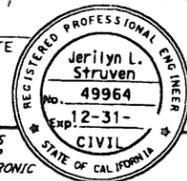
**STAGE CONSTRUCTION PLAN**  
**STAGE 1**  
SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION WORK ONLY

**SC-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 Et-Catrans®  
 FUNCTIONAL SUPERVISOR  
 CHECKED BY  
 CALCULATED-DESIGNED BY  
 REVISOR BY  
 DATE REVISOR

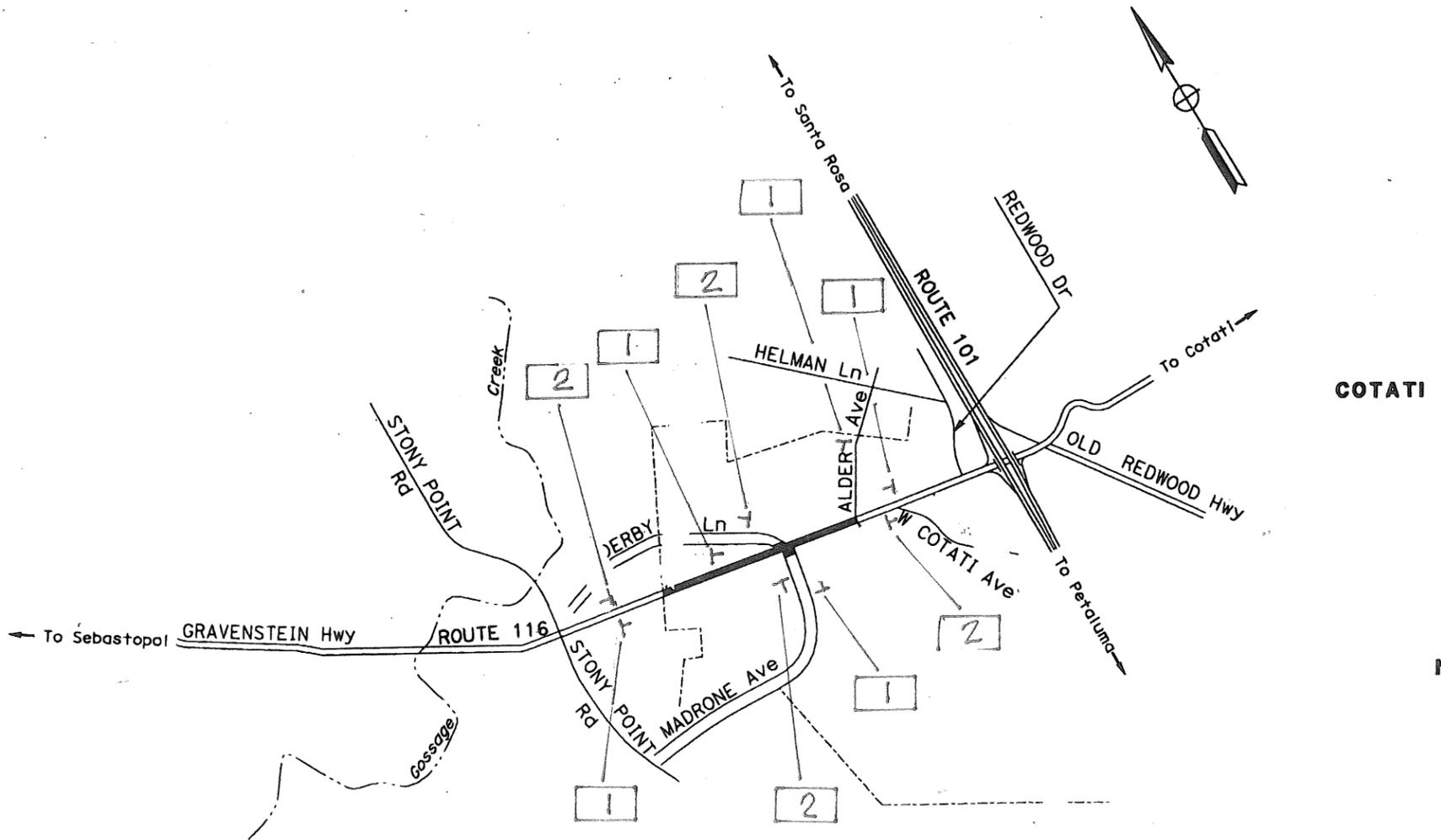




**CONSTRUCTION AREA SIGNS**

| SIGN No. | SIGN CODE | SIGN MESSAGE    | PANEL SIZE (INCH X INCH) | No. OF POSTS & SIZE (EA-INCHxINCH) | QUANTITY |
|----------|-----------|-----------------|--------------------------|------------------------------------|----------|
| 1        | W20-1     | ROAD WORK AHEAD | 48 x 48                  | 1-4 x 6                            | 5        |
| 2        | G20-2     | END ROAD WORK   | 36 x 18                  | 1-4 x 4                            | 4        |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR: JERILYN L. STRUVEN  
 CALCULATED-DESIGNED BY: HERMINIO S. RUIDERA  
 CHECKED BY: \_\_\_\_\_  
 REVISED BY: \_\_\_\_\_  
 DATE REVISED: \_\_\_\_\_



**LEGEND:**

[No.] CONSTRUCTION AREA SIGNS

**NOTES:**

1. EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.
2. CONSTRUCTION AREA SIGNS TO BE STATIONARY MOUNTED.

**CONSTRUCTION AREA SIGNS**  
NO SCALE

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-



LAST REVISION DATE PLOTTED





|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

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### PAVEMENT DELINEATION QUANTITIES

| SHEET No. | STATION             | DETAIL No. | PAVEMENT MARKER           |                           | THERMOPLASTIC TRAFFIC STRIPE |           |          | THERMOPLASTIC PAVEMENT MARKING |      |                |     |
|-----------|---------------------|------------|---------------------------|---------------------------|------------------------------|-----------|----------|--------------------------------|------|----------------|-----|
|           |                     |            | RETRO-REFLECTIVE (TYPE D) | RETRO-REFLECTIVE (TYPE G) | 4" WHITE                     | 4" YELLOW | 8" WHITE | TYPE III (L) ARROW             | STOP | 12" WHITE LINE |     |
|           |                     |            | EA                        |                           | LF                           |           |          | SQFT                           |      |                |     |
| PD-1      | ALN1 30+98 TO 41+50 | 27B        |                           |                           |                              |           |          |                                |      |                |     |
|           | ALN1 30+98 TO 35+55 | 29         | 40                        |                           |                              | 1828      |          |                                |      |                |     |
|           | ALN1 35+55 TO 41+50 | 22         | 47                        |                           |                              | 1080      |          |                                |      |                |     |
|           | ALN1 38+40 TO 41+50 | 38         |                           | 9                         |                              |           | 190      |                                |      |                |     |
|           | ALN1 38+40 TO 41+50 |            |                           |                           |                              |           |          | 84                             | 88   | 192            |     |
| PD-2      | ALN1 41+50 TO 49+42 | 27B        |                           |                           | 1484                         |           |          |                                |      |                |     |
|           | ALN1 44+89 TO 49+42 | 29         | 40                        |                           |                              | 1812      |          |                                |      |                |     |
|           | ALN1 41+50 TO 44+89 | 22         | 37                        |                           |                              | 906       |          |                                |      |                |     |
|           | ALN1 41+50 TO 41+60 | 38         |                           | 1                         |                              |           | 10       |                                |      |                |     |
| SUBTOTAL  |                     |            | 164                       | 10                        | 3348                         | 5626      | 200      | 84                             | 88   | 172            |     |
| TOTAL     |                     |            | 174                       |                           | 8974                         |           |          | 200                            |      |                | 344 |

172

### REMOVE EXISTING PAVEMENT DELINEATION

| STATION             | REMOVE PAVEMENT MARKER | REMOVE THERMOPLASTIC TRAFFIC STRIPE |           |
|---------------------|------------------------|-------------------------------------|-----------|
|                     |                        | 4" WHITE                            | 4" YELLOW |
|                     | EA                     | LF                                  |           |
| ALN1 30+98 TO 49+42 | 104                    | 3368                                | 2192      |

### TEMPORARY PAVEMENT DELINEATION

| STATION             | TEMPORARY TRAFFIC STRIPE (TAPE) |
|---------------------|---------------------------------|
| ALN1 30+98 TO 49+42 | LF<br>2192                      |

x  
 REVISOR BY DATE REVISOR  
 x  
 CALCULATED-DESIGNED BY CHECKED BY  
 x  
 FUNCTIONAL SUPERVISOR  
 x  
 DEPARTMENT OF TRANSPORTATION  
 TRAFFIC  
 x  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Caltrans

### PAVEMENT DELINEATION QUANTITIES

PDQ-1



|  |        |       |                          |           |              |
|--|--------|-------|--------------------------|-----------|--------------|
| DIST   | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |
| REGISTERED CIVIL ENGINEER DATE   |        |       |                          |           |              |
| PLANS APPROVAL DATE  |        |       |                          |           |              |
| <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small> |        |       |                          |           |              |



### ROADWAY QUANTITIES

| STATION             | HOT MIX ASPHALT (TYPE A) | COLD PLANE ASPHALT CONCRETE PAVEMENT |                 | TACK COAT | PAVEMENT REINFORCING FABRIC |
|---------------------|--------------------------|--------------------------------------|-----------------|-----------|-----------------------------|
|                     |                          | 0.10' MAX DEPTH                      | 0.25' MAX DEPTH |           |                             |
|                     | TON                      | SQYD                                 |                 | TON       | SQYD                        |
| ALN1 30+98 TO 49+42 | 1800 <sup>210</sup>      | 133                                  | 384             | 4         | 5600                        |
| TOTAL               | 1800 <sup>215</sup>      | 517                                  |                 | 4         | 5600                        |

CLASS 3  
AGGREGATE  
BASE  
CY  
2,600  
2,600

### STAGE CONSTRUCTION QUANTITIES

| SHEET No. | STATION             | TEMPORARY RAILING (TYPE K) | TEMPORARY CRASH CUSHION MODULE | TEMPORARY FENCE (ESA) |
|-----------|---------------------|----------------------------|--------------------------------|-----------------------|
|           |                     |                            | ABSORB 350                     |                       |
|           |                     | LF                         | EA                             | LF                    |
| SC-1      | ALN1 30+98 TO 41+50 | 660                        | 5                              | 2104                  |
| SC-2      | ALN1 41+50 TO 49+42 | 500                        | 3                              | 1584                  |
|           | TOTAL               | 1160                       | 8                              | 3688                  |

### EARTHWORK

| STATION             | ROADWAY EXCAVATION | EMBANKMENT (N) |
|---------------------|--------------------|----------------|
|                     | CY                 |                |
| ALN1 30+98 TO 49+42 | 2228               | 470            |
| TOTAL               | 2228               | 470            |

## SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED



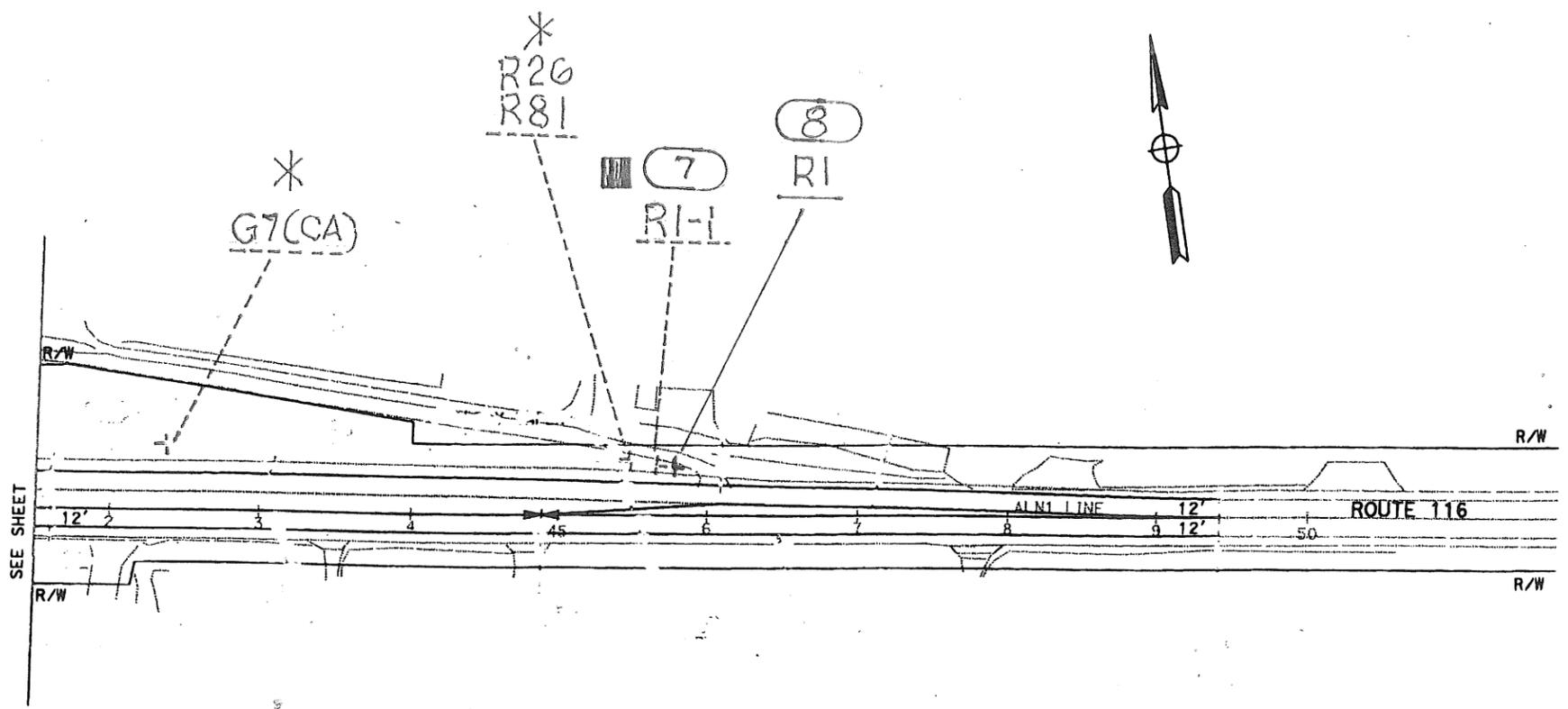


| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|------|--------|-------|--------------------------|-----------|--------------|
| 04   | Son    | 116   | 34.09/34.47              |           |              |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_  
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**St. Gobans** TRAFFIC  
 FUNCTIONAL SUPERVISOR: JERILYN L. STRUVEN  
 CALCULATED/DESIGNED BY: HERMINIO S. RUIDE  
 CHECKED BY: \_\_\_\_\_  
 DATE REVISED: \_\_\_\_\_



SIGN PLAN  
 NO SCALE  
 S-2

LAST REVISION DATE PLOTTED => 03-NOV-2011 TIME PLOTTED => 16:32

## ROADSIDE SIGN QUANTITIES

| SIGN No | CODE      | PANEL SIZE | POST SIZE AND LENGTH |         | ROADSIDE SIGN ONE POST | REMOVE ROADSIDE SIGN | RELOCATE ROADSIDE SIGN | REMARKS |
|---------|-----------|------------|----------------------|---------|------------------------|----------------------|------------------------|---------|
|         |           |            | 4" X 4"              | 4" X 6" | EA                     | EA                   | EA                     |         |
| 1       | R1-1      | 30"        | 13'-0"               |         | 1                      |                      |                        |         |
| 2       | R1-1      |            |                      |         |                        |                      |                        |         |
| 3       | R48-2(CA) |            |                      |         |                        | 1                    |                        |         |
| 4       | R26(CA)   |            |                      |         |                        |                      | 1                      |         |
|         | R81(CA)   |            |                      |         |                        |                      | 1                      |         |
| 5       | R1-1      |            |                      |         |                        |                      |                        |         |
| 6       | R1-1      | 30"        | 13'-0"               |         | 1                      |                      |                        |         |
| 7       | R1-1      |            |                      |         |                        |                      |                        |         |
| 8       | R1-1      | 30"        | 13'-0"               |         | 1                      |                      |                        |         |
|         |           |            |                      |         | 3                      | 3                    | 2                      |         |

|      |        |       |                          |           |              |
|------|--------|-------|--------------------------|-----------|--------------|
| Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| 04   | Son    | 116   | 34.09/34.47              |           |              |

REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_

PLANS APPROVAL DATE \_\_\_\_\_

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## SIGN PANEL SUMMARY

| SIGN CODE | SIGN SIZE (Inches) | SIGN AREA (SQ. FT) | SINGLE FACED | DOUBLE FACED | BACKGROUND     |                           | LEGEND         |                           | GRAPHIC FILM |         | UNFRAMED ALUMINUM |       |         | REMARKS |  |
|-----------|--------------------|--------------------|--------------|--------------|----------------|---------------------------|----------------|---------------------------|--------------|---------|-------------------|-------|---------|---------|--|
|           |                    |                    |              |              | SHEETING COLOR | RETROREFLECTIVE ASTM TYPE | SHEETING COLOR | RETROREFLECTIVE ASTM TYPE | STANDARD     | PREMIUM | 0.064"            | 0.08" | SQ. FT. |         |  |
|           |                    |                    |              |              |                |                           |                |                           |              |         |                   |       |         |         |  |
| 1         | R1-1               | 30"                | 5.18         | X            | RED            | II                        | WHITE          | PLAIN                     |              |         |                   |       |         |         |  |
| 6         | R1-1               | 30"                | 5.18         | X            | RED            | II                        | WHITE          | PLAIN                     | X            |         | 5.18              |       |         |         |  |
| 8         | R1-1               | 30"                | 5.18         | X            | RED            | II                        | WHITE          | PLAIN                     | X            |         | 5.18              |       |         |         |  |
| TOTAL     |                    |                    |              |              |                |                           |                |                           |              |         |                   |       | 15.54   |         |  |

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC  
 FUNCTIONAL SUPERVISOR: JERILYN L. STRAVEN  
 CALCULATED/DESIGNED BY: HERMINIDS RUIDERA  
 CHECKED BY: \_\_\_\_\_  
 REVISIONS: \_\_\_\_\_  
 DATE REVISED: \_\_\_\_\_

SIGN QUANTITIES

S-3

LAST REVISION: DATE PLOTTED => 03-NOV-2011  
 11-03-11 TIME PLOTTED => 16:32