SPECIFICATIONS FOR MANUFACTURE AND INSTALLATION OF CON/SPAN® BRIDGE SYSTEMS

1. DESCRIPTION

This work shall consist of constructing a CON/SPAN ® bridge in accordance with these specifications and in reasonably close conformity with the lines, grades, design and dimensions shown on the plans or as established by the Engineer. In situations where two or more specifications apply to this work, the most stringent requirements shall govern.

2. TYPES

Precast reinforced concrete CON/SPAN® bridge units manufactured in accordance with this specification shall be designated by span and rise. Precast reinforced concrete CON/SPAN® wingwalls and headwalls manufactured in accordance with this specification shall be designated by length, height, and deflection angle.

3. MATERIALS - CONCRETE

The concrete for the culverts shall be air-entrained when installed in areas subject to freeze-thaw conditions, composed of portland cement, fine and coarse aggregates, admixtures and water. Air-entrained concrete shall contain 6 ± 2 percent air. The air entraining admixture shall conform to AASHTO M154.

- 3.1 Portland Cement Shall conform to the requirements of ASTM Specifications C150-Type I, Type II, or Type III cement.
- 3.2 Coarse Aggregate Shall consist of stone having a maximum size of 1 inch. Aggregate shall meet requirements for ASTM C33.
- 3.3 Water Reducing Admixture The manufacturer may submit for approval by the Engineer, a water-reducing admixture for the purpose of increasing workability and reducing the water requirement for the concrete
- 3.4 Calcium Chloride The addition to the mix of calcium chloride or admixtures containing calcium chloride will not be permitted.

4. MATERIALS - STEEL REINFORCEMENT AND

All reinforcing steel for the culverts shall be fabricated and placed in accordance with the detailed shop drawings submitted by the manufacturer.

- 4.1 Steel Reinforcement Reinforcement shall consist of welded wire fabric conforming to ASTM Specification A 185 or A 497, or deformed billet steel bars conforming to ASTM Specification A 615, Grade 60. Longitudinal distribution reinforcement may consists of welded wire fabric or deformed billet-steel bars.
- 4.2 Hardware:

Bolts and threaded rods for wingwall connections shall conform to ASTM A 307. Nuts shall conform to AASHTO M 292 (ASTM A 194) Grade 2H. All bolts, threaded rods and nuts used in wingwall connections shall be mechanically zinc coated in accordance with ASTM B 695 Class 50.

Structural Steel for wingwall connection plates and plate washers shall conform to AASHTO M 270 (ASTM A 709) Grade 36 and shall be hot dip galvanized as per AASHTO M 111 (ASTM A 123).

Inserts for wingwalls shall be 1" diameter Two-Bolt Preset Wingwall Anchors as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700.

Ferrule Loop Inserts shall be F-64 Ferrule Loop Inserts as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700.

Hook Bolts used in attached headwall connections shall be ASTM A 307.

Inserts for detached headwall connections shall be AISI Type 304 stainless steel, F-58 Expanded Coil inserts as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700. Coil rods and nuts used in headwall connections shall be AISI Type 304 stainless steel. Washers used in headwall connections shall be either AISI Type 304 stainless steel plate washers or AASHTO M 270 (ASTM A 709) Grade 36 plate washers hot dip galvanized as per AASHTO M 111 (ASTM A 153).

Reinforcing bar splices shall be made using the Dowel Bar Splicer System as manufactured by Dayton/Richmond Concrete Accessories, Miamisburg, Ohio, (800) 745-3700, and shall consist of the Dowel Bar Splicer (DB-SAE) and Dowel-In (DI).

5. MANUFACTURE

- 5.1 Mixture The aggregates, cement and water shall be proportioned and mixed in a batch mixer to produce a homogeneous concrete meeting the strength requirements of this specification. The proportion of portland cement in the mixture shall not be less than 564 pounds (6 sacks) per cubic yard of concrete.
- 5.2 Curing The precast concrete culvert units shall be cured for a sufficient length of time so that the concrete will develop the specified compressive strength in 28 days or less. Any one of the following methods of curing or combinations thereof shall be used:
 - 5.2.1 Steam Curing The culverts may be low pressure, steam cured by a system that will maintain a moist atmosphere.
 - 5.2.2 Water Curing The culverts may be water cured by any method that will keep the sections moist.
 - 5.2.3 Membrane Curing A sealing membrane conforming to the requirements of ASTM Specification C 309 may be applied and shall be left intact until the required concrete compressive strength is attained. The concrete temperature at the time of application shall be within ± 10 degrees F of the atmospheric temperature. All surfaces shall be kept moist prior to the application of the compounds and shall be damp when the compound is applied.
- 5.3 Forms the forms used in manufacture shall be sufficiently rigid and accurate to maintain the culvert dimensions within the permissible variations given in Section 7 of these specifications. All casting surfaces shall be of a smooth
- 5.4 Handling Handling devices or holes shall be permitted in each culvert for the purpose of handling and setting.
- 5.5 Storage The precast elements shall be stored in such a manner to prevent cracking or damage. The units shall not be moved until the concrete compressive strength has reached a minimum of 2500 psi, and they shall not be stored in an upright position until the concrete compressive strength is a minimum of 4,000 psi.

6. DESIGN

- 6.1 The precast element dimension and reinforcement details shall be as prescribed in the plan and the shop drawings provided by the manufacturer, subject to the provisions of Section 7, below. The minimum concrete compressive strength shall be as shown on the shop drawings. The minimum steel yield strength shall be 60,000 psi, unless otherwise noted on the shop drawings.
- The precast elements are designed in accordance with the "Standard Specifications for Highway Bridges" 17th Edition, adopted by the American Association of State Highway and Transportation Officials, 2002. A minimum of one foot of cover above the crown of the bridge units is required in the installed condition. (Unless noted otherwise on the shop drawings and designed accordingly.)
- 6.3 Placement of Reinforcement in Precast Bridge Units The cover of concrete over the outside circumferential reinforcement shall be 2 inches minimum. The cover of concrete over the inside circumferential reinforcement shall be 1 1/2 inches minimum, unless otherwise noted on the shop drawings. The clear distance of the end circumferential wires shall not be less than one inch nor more than two inches from the ends of each section. Reinforcement shall be assembled utilizing single or multiple layers of welded wire fabric (not to exceed 3 layers), supplemented with a single layer of deformed billet-steel bars. when necessary. Welded wire fabric shall be composed of circumferential and longitudinal wires meeting the spacing requirements of 6.6, below, and shall contain sufficient longitudinal wires extending through the bridge unit to maintain the shape and position of the reinforcement. Longitudinal distribution reinforcement may be welded wire fabric or deformed billet-steel bars and shall meet the spacing requirements of 6.6, below. The ends of the longitudinal distribution reinforcement shall be not more than 3 inches and not less than 1 1/2 inches from the ends of the bridge unit.
- 6.4 Placement of Reinforcement for Precast Wingwalls and Headwalls The cover of concrete over the longitudinal and transverse reinforcement shall be 2 inches minimum. The clear distance from the end of each precast element to the end transverse reinforcing steel shall not be less than one inch nor more than two inches. Reinforcement shall be assembled utilizing a single layer of welded wire fabric, or a single layer of deformed billet-steel bars. Welded wire fabric shall be composed of transverse and longitudinal wires meeting the spacing requirements of 6.7, below, and shall contain sufficient longitudinal wires extending through the element to maintain the shape and position of the reinforcement. Longitudinal reinforcement may be welded wire fabric or deformed billet-steel bars and shall meet the spacing requirements of 6.7, below. The ends of the longitudinal reinforcement shall be not more than 3 inches and not less than 1 1/2 inches from the ends of the walls.
- 6.5 Bending of Reinforcement for Precast Bridge Units The outside and inside circumferential reinforcing steel for the corners of the bridge shall be bent to such an angle that is approximately equal to the configuration of the bridge's outside corner.
- 6.6 Laps, Welds, and Spacing for Precast Bridge Units Tension splices in the circumferential reinforcement shall be made by lapping. Laps may be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.2 and 8.32.6. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.1 and 8.32.5. The overlap of welded wire fabric shall be measured between the outer most longitudinal wires of each fabric sheet. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 8.25. For splices other than tension splices, the overlap shall be a minimum of 12" for welded wire fabric or deformed billet-steel bars. The spacing center to center of the circumferential wires in a wire fabric sheet shall be not less than 2 inches nor more than 4 inches. The spacing center to center of the longitudinal wires shall not be more than 8 inches. The spacing center to center of the longitudinal distribution steel for either line of reinforcing in the top slab shall be not more than 16 inches.
- 6.7 Laps, Welds, and Spacing for Precast Wingwalls and Headwalls -Splices in the reinforcement shall be made by lapping. Laps may be tack welded together for assembly purposes. For smooth welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.2 and 8.32.6. For deformed welded wire fabric, the overlap shall meet the requirements of AASHTO 8.30.1 and 8.32.5. For deformed billet-steel bars, the overlap shall meet the requirements of AASHTO 8.25. The spacing center-to-center of the wires in a wire fabric sheet shall be not less than 2 inches nor more than 8 inches.

7. PERMISSIBLE VARIATIONS

7.1 Bridge Units

- 7.1.1 Internal Dimensions The internal dimension shall vary not more than 1 % from the design dimensions nor more than 1-1/2 inches whichever is less. The haunch dimensions shall vary not more than 3/4 inch from the design dimension.
- 7.1.2 Slab and Wall Thickness The slab and wall thickness shall not be less than that shown in the design by more than 1/4 inch. A thickness more than that required in the design shall not be cause for rejection.
- 7.1.3 Length of Opposite Surfaces Variations in laying lengths of two opposite surfaces of the bridge unit shall not be more than 1/2 inch in any section, except where beveled ends for laying of curves are specified by the purchaser.
- 7.1.4 Length of Section The underrun in length of a section shall not be more than 1/2 inch in any bridge unit.
- 7.1.5 Position of Reinforcement The maximum variation in position of the reinforcement shall be ± 1/2 inch. In no case shall the cover over the reinforcement be less than 1 1/2 inches for the outside circumferential steel or be less than 1 inch for the inside circumferential steel as measured to the external or internal surface of the bridge. These tolerances or cover requirements do not apply to mating surfaces of the joints.
- 7.1.6 Area of Reinforcement The areas of steel reinforcement shall be the design steel areas as shown in the manufacturer's shop drawings. Steel areas greater than those required shall not be cause for rejection. The permissible variation in diameter of any reinforcement shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcement.

7.2 Wingwalls and Headwalls

- 7.2.1 Wall Thickness The wall thickness shall not vary from that shown in the design by more than 1/2 inch.
- 7.2.2 Length/ Height of Wall sections The length and height of the wall shall not vary from that shown in the design by more than
- 7.2.3 Position of Reinforcement The maximum variation in the position of the reinforcement shall be ± 1/2 inch. In no case shall the cover over the reinforcement be less than 1 1/2
- 7.2.4 Size of Reinforcement The permissible variation in diameter of any reinforcing shall conform to the tolerances prescribed in the ASTM Specification for that type of reinforcing. Steel area greater than that required shall not be cause for rejection.

8. TESTING AND INSPECTION

- 8.1 Type of Test Specimen Concrete compressive strength shall be determined from compression tests made on cylinders or cores. For cylinder testing, a minimum of 4 cylinders shall be taken during each production run. For core testing, one core shall be cut from each of 3 precast elements selected at random from each production group. A production group shall be defined as 15 or fewer bridge units (of a particular size), wingwalls or headwalls in a continuous production run. For each continuous production run, each production group or fraction thereof shall be considered separately for the purpose of testing and acceptance. A production run shall be considered continuous if not interrupted for more than 3 consecutive days.
- 8.2 Compression Testing Cylinders shall be made and tested as prescribed by the ASTM C 39 Specification. Cores shall be obtained and tested for compressive strength in accordance with the provisions of the ASTM C497 Specification.
- 8.3 Acceptability of Cylinder Tests When the average compressive strength of all cylinders tested is equal to or greater than the design compressive strength, and not more than 10 % of the cylinders tested have a compressive strength less than the design concrete strength, and no cylinder tested has a compressive strength less than 80 % of the design compressive strength, then the lot shall be accepted. When the compressive strength of the cylinders tested does not conform to this acceptance criteria, the acceptability of the lot may be determined as described in section 8.4, below.
- 8.4 Acceptability of Core Tests The compressive strength of the concrete in each production group as defined in 8.1 is acceptable when the average core test strength is equal to or greater than the design concrete strength. When the compressive strength of the core tested is less than the design concrete strength, the precast element from which that core was taken may be re-cored. When the compressive strength of the re-core is equal to or greater than the design concrete strength, the compressive strength of the concrete in that production group is acceptable.
 - 8.4.1 When the compressive strength of any recore is less than the design concrete strength, the precast element from which that core was taken shall be rejected. Two precast elements from the remainder of the group shall be selected at random and one core shall be taken from each. If the compressive strength of both cores is equal to or greater than the design concrete strength, the compressive strength of the remainder of that group is acceptable. If the compressive strength of either of the two cores tested is less than the design concrete strength, the remainder of the group shall be rejected or, at the option of the manufacturer, each precast element of the remainder of the group shall be cored and accepted individually, and any of these elements that have cores with less than the design concrete strength shall be rejected.
 - 8.4.2 Plugging Core Holes The core holes shall be plugged and sealed by the manufacturer in a manner such that the elements will meet all of the test requirements of this specification. Precast elements so sealed shall be considered satisfactory for use.
 - 8.4.3 Test Equipment Every manufacturer furnishing culverts under this specification shall furnish all facilities and personnel necessary to carryout the test required.

9. JOINTS

The bridge units shall be produced with flat butt ends. The ends of the bridge units shall be such that when the sections are laid together they will make a continuous line of with a smooth interior free of appreciable irregularities, all compatible with the permissible variations in Section 7, above. The joint width shall not exceed 3/4 inches.

10. WORKMANSHIP AND FINISH

The bridge units, wingwalls, and headwalls shall be substantially free of fractures. The ends of the bridge units shall be normal to the walls and centerline of the bridge section, within the limits of the variations given in section 7, above, except where beveled ends are specified. The faces of the wingwalls and headwalls shall be parallel to each other, within the limits of variations given in section 7, above. The surface of the precast elements shall be a smooth steel form or troweled surface. Trapped air pockets causing surface defects shall be considered as part of a smooth, steel form finish.

11. REPAIRS

Precast elements may be repaired, if necessary, because of imperfections in manufacture or handling damage and will be acceptable if, in the opinion of the purchaser, the repairs are sound, properly finished and cured, and the repaired section conforms to the requirements of this specification.

12. INSPECTION

The quality of materials, the process of manufacture, and the finished culverts shall be subject to inspection by the purchaser.

13. REJECTION

The precast elements shall be subject to rejection on account of any of the specification requirements. Individual precast elements may be rejected because of any of the following:

- 13.1 Fractures or cracks passing through the wall, except for a single end crack that does not exceed one half the thickness of the wall.
- 13.2 Defects that indicate proportioning, mixing, and molding not in compliance with
- 13.3 Honeycombed or open texture.

Section 5 of these specifications.

13.4 Damaged ends, where such damage would prevent making a satisfactory joint.

14. MARKING

Each bridge unit shall be clearly marked by waterproof paint. The following shall be shown on the inside of the vertical leg of the bridge section: Bridge Span X Bridge Rise

Date of Manufacture Name or trademark of the manufacturer

15. CONSTRUCTION REQUIREMENTS

- 15.1 Footings The bridge units and wingwalls shall be installed on either precast or cast-in-place concrete footings. The design size and elevation of the footings shall be as determined by the Engineer. A three inch deep keyway shall be formed in the top surface of the bridge footing three inches clear of the inside and outside faces of the bridge units, unless specified otherwise on the plans. No keyway is required in the wingwall footings, unless otherwise specified on the plans. The footings shall be given a smooth float finish and shall reach a compressive strength of 2,000 psi before placement of the bridge and wingwall elements. The completed footing surface shall be constructed in accordance with grades shown on the plans. When tested with a 10 foot straight edge, the surface shall not vary more than 1/4 inch in 10 feet. If a precast concrete footing is used, the contractor shall prepare a 4 inch thick base layer of compacted granular material the full width of the footing prior to placing the precast footing.
- 15.2 Placement of the Bridge Units, Wingwalls and Headwalls The bridge units, wingwalls and headwalls shall be placed as shown on the Engineer's plan drawings. Special care shall be taken in setting the elements to the true line and grade. The bridge units and wingwalls shall be set on 6" x 6" masonite or steel shims. A minimum gap of 1/2 inch shall be provided between the footing and the bottom of the bridge's vertical legs or the wingwall. The gap shall be filled with cement grout (Portland cement and water or cement mortar composed of Portland cement, sand and water) with a minimum 28-day compressive strength of 3000 psi. If units have been set with temporary ties (cables, bars, etc.) grout must attain a minimum compressive strength of 1500 psi before ties may be removed.
- 15.3 External Protection of Joints The butt joint made by two adjoining bridge units shall be covered with a 7/8" x 1 3/8" preformed bituminous joint sealant and a minimum of a 9 inch wide joint wrap. The surface shall be free of dirt before shall be applied for a minimum width of nine inches on each side of the joint. The external wrap shall be either EZ-WRAP RUBBER by PRESS-SEAL GASKET CORPORATION, SEAL WRAP by MAR MAC MANUFACTURING CO. INC. or approved equal. The joint shall be covered continuously from the bottom of one bridge section leg, across the top of the arch and to the opposite bridge section leg. Any laps that result in the joint wrap shall be a minimum of six inches long with the overlap running downhill.
- In addition to the joints between bridge units, the joint between the end bridge unit and the headwall shall also be sealed as described above. If precast wingwalls are used, the joint between the end bridge unit and the wingwall shall be sealed with a 2'-0" strip of filter fabric. Also, if lift holes are formed in the arch units, they shall be primed and covered with a 9" x 9" square of joint wrap.
- During the backfilling operation, care shall be taken to keep the joint wrap in its proper location over the joint.
- 15.4 Backfill Backfill shall be considered as all replaced excavation and new embankment adjacent to the CON/SPAN® bridge units, wingwalls, and headwalls. The project construction and material specifications which include the specifications for excavation for structures and roadway excavation and embankment construction, shall apply except as modified in this section.

No backfill shall be placed against any structural elements until they have been approved by the Engineer.

Backfill against a waterproofed surface shall be placed carefully to avoid damage to the waterproofing material.

Mechanical tampers or approved compacting equipment shall be used to compact all backfill and embankment immediately adjacent to each side and over the top of each bridge unit until it is covered to a minimum depth of one foot, unless the design fill height is less than 1'-0". The backfill within the Critical Backfill Zone (shown in the diagrams below) shall be placed in lifts of eight inches or less (loose depth). Heavy compaction equipment shall not be operated in this area or over the bridge until it is covered to a depth of one foot, unless the design fill height is less than 1'-0".

Lightweight dozers and graders may be operated over bridge units having one foot of compacted cover, but heavy earth moving equipment (larger than a D-4 Dozer weighing in excess of 12 tons and having track pressures of eight psi or greater) shall require two feet of cover unless the design cover is less than two feet. In no case shall equipment operating in excess of the design load (HS20 or HS25) be permitted over the bridge units unless approved by CON/SPAN®.

Any additional fill and subsequent excavation required to provide this minimum cover shall be made at no additional cost to the project.

As a precaution against introducing unbalanced stresses in the bridge, when placing backfill at no time shall the difference between the heights of fill on opposite sides of the bridge exceed 24".

Backfill in front of wingwalls shall be carried to ground lines shown in the plans.

For fill heights over 12 feet, no backfilling may begin until a backfill compaction testing plan has been coordinated with and approved by CON/SPAN® Bridge Systems. Cost of the backfill compaction testing shall be included in the cost of the precast units. This included cost applies only to projects with fill heights over 12 feet (as measured from top crown of arch to finished grade).

16. QUALITY ASSURANCE

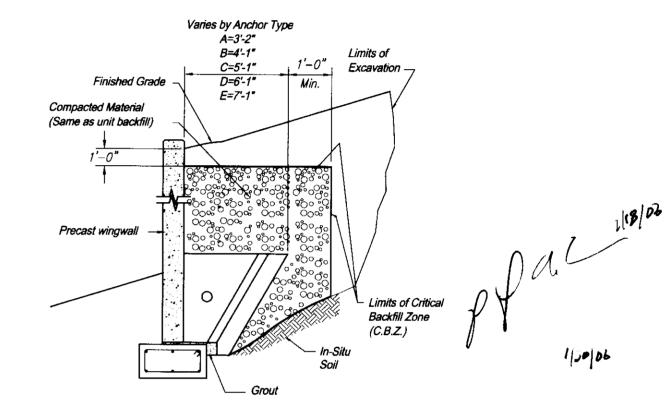
The Precaster shall demonstrate adherence to the standards set forth in the NPCA Quality Control Manual. The Precaster shall meet either Section 16.1 or 16.2.

- 16.1 Certification: The Precaster shall be certified by the Precast/Prestressed Concrete Institute Plant Certification Program or the National Precast Concrete Association's Plant Certification Program prior to and during production of the products covered by this specification.
- 16.2 Qualifications, Testing and Inspection
 - 16.2.1 The Precaster shall have been in the business of producing precast concrete products similar to those specified for a minimum of three years. He shall maintain a permanent quality control department or retain an independent testing agency on a continuing basis. The agency shall issue a report, certified by a licensed engineer, detailing the ability of the Precaster to produce quality products consistent with industry standards.
 - 16.2.2 The Precaster shall show that the following tests are performed in accordance with the ASTM standards indicated. Tests shall be performed for each 150 cubic yards of concrete placed, but not less frequently than once per production run, as defined in §8 of these specifications.

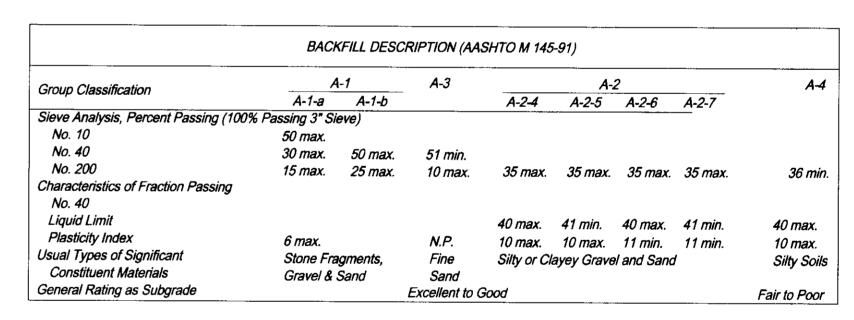
Air Content: C231 or C173

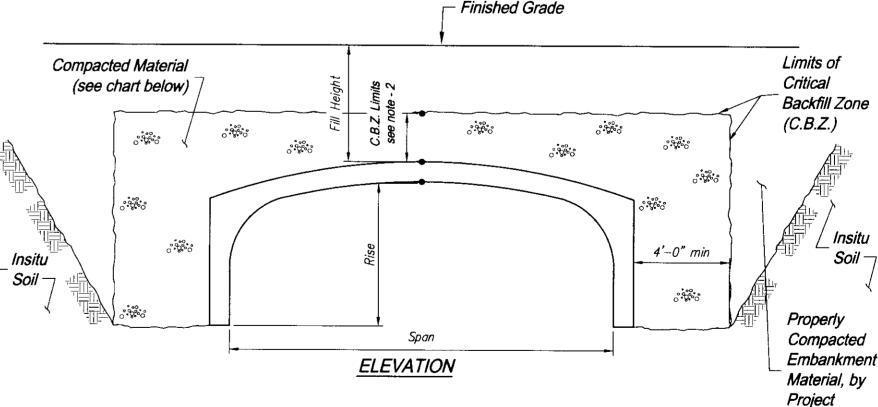
Compressive Strength: C39, C497

- 16.2.3 The Precaster shall provide documentation demonstrating compliance with this section to CON/SPAN® Bridge Systems at regular intervals or upon request.
- 16.2.4 The Owner shall place an inspector in the plant when the products covered by this specification are being



WINGWALL BACKFILL REQUIREMENTS





1. SEE CON/SPAN® SPECIFICATIONS SECTION 15.4 FOR BACKFILL SPECIFICATIONS. 2. FOR FILL HEIGHTS GREATER THAN 2'-0", C.B.Z. LIMIT SHALL BE 2'-0" ABOVE ARCH CROWN. FOR FILL HEIGHTS LESS THAN 2'-0", THE FINISHED GRADE SHALL BE THE BOUNDARY LINE FOR THE C.B.Z. 3. BACKFILLING OPERATIONS WITHIN THE C.B.Z. SHALL BE PERFORMED IN LIFTS OF 8" OR LESS (LOOSE DEPTH). 4. MAXIMUM DRY DENSITY SHALL BE DETERMINED BY AASHTO T-99 OR OTHER APPROVED METHODS. 5. BACKFILL SHALL BE COMPACTED IN LAYERS UNTIL THE DENSITY IS NOT LESS THAN 95 % OF THE MAXIMUM

SPAN	FILL HEIGHT	ACCEPTABLE MATERIAL INSIDE C.B.Z.	ACCEPTABLE MATERIAL OUTSIDE C.B.Z.
≤ 24'-0"	≥ 12'-0"	A1, A3	**
≤ <i>24'-0"</i>	< 12'-0"	A1, A2, A3, A4	**
> 24'-0"	ALL	A1, A3	**
	** EMBANA	(MENT MATERIAL PER PROJEC	CT SPECIFICATIONS
	BACKF	ILL REQUIREMEI	V <i>TS</i>

REVISED 1/15/02 SPEC4.DWG REVISED 6/12/01 SPEC3.DWC REVISED 7/21/00 SPEC3.DWG REVISED 7/14/97 SPEC1.DWC REVISED 4/4/96 SPECI.DWG REVISED 3/5/96 SPEC1.DWG REVISED 11/14/94 SPEC1.DWG REVISED 5/25/94 SPEC1.DWG REVISED 9/10/93 SPEC1.DWG

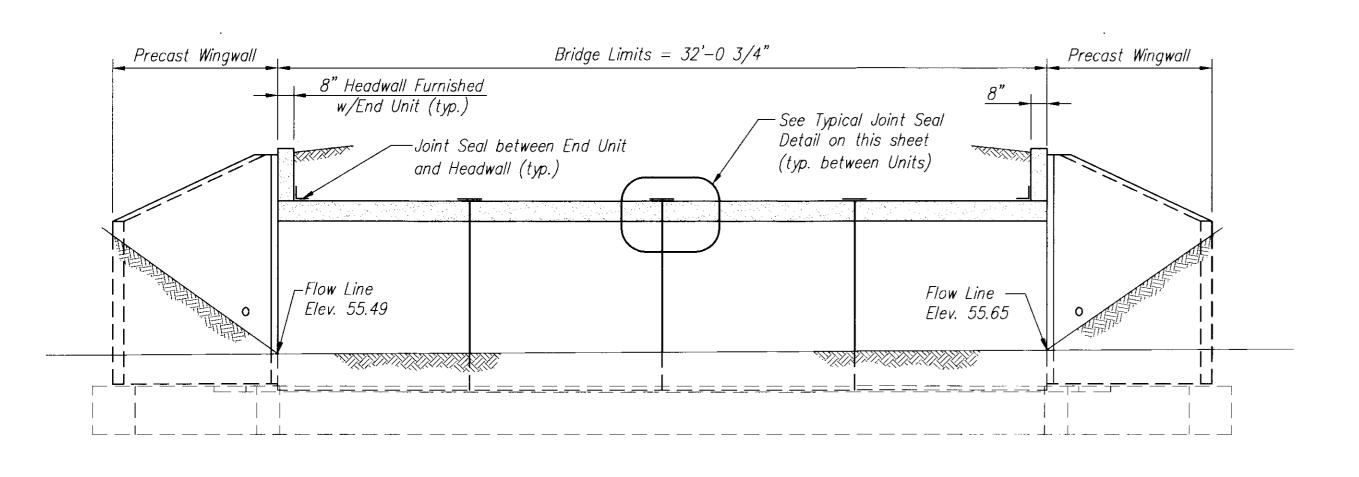
REVISED 9/3/03 SPEC4.DWG

Specification

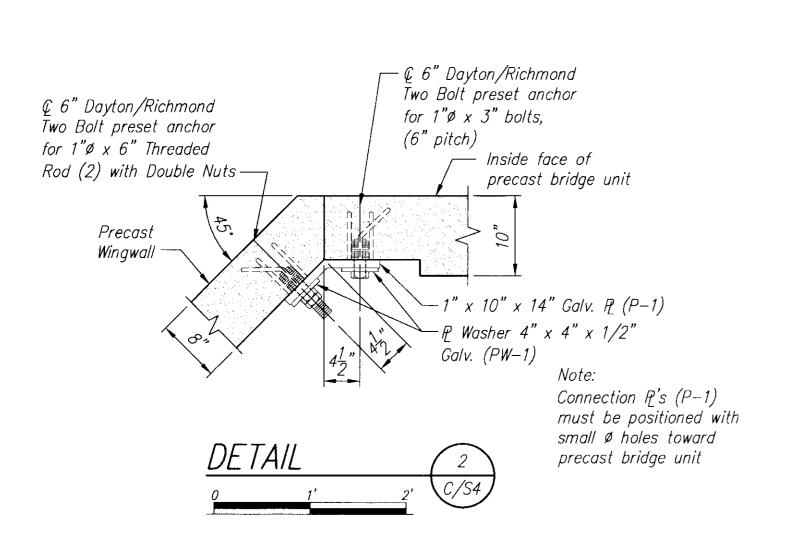
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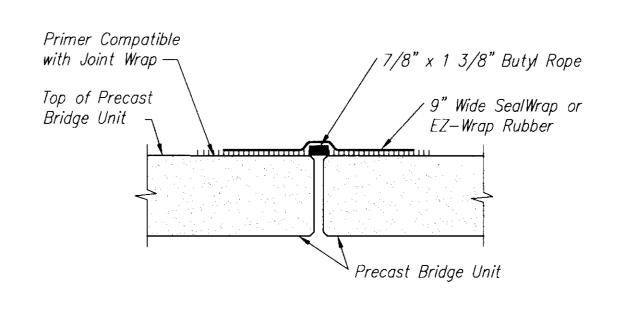
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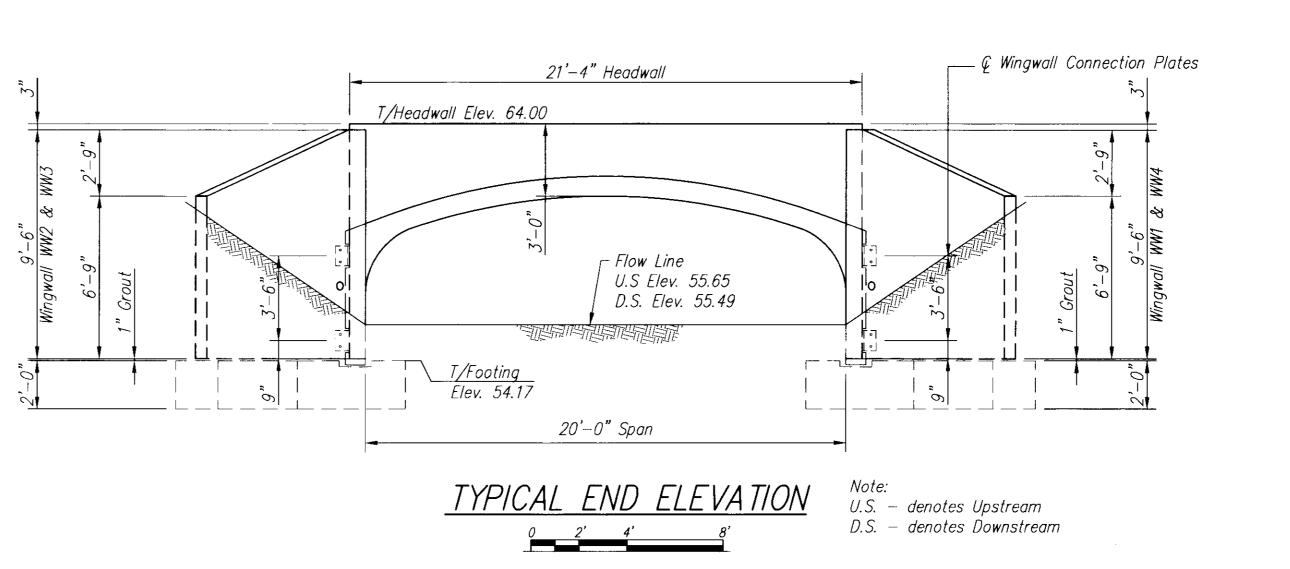


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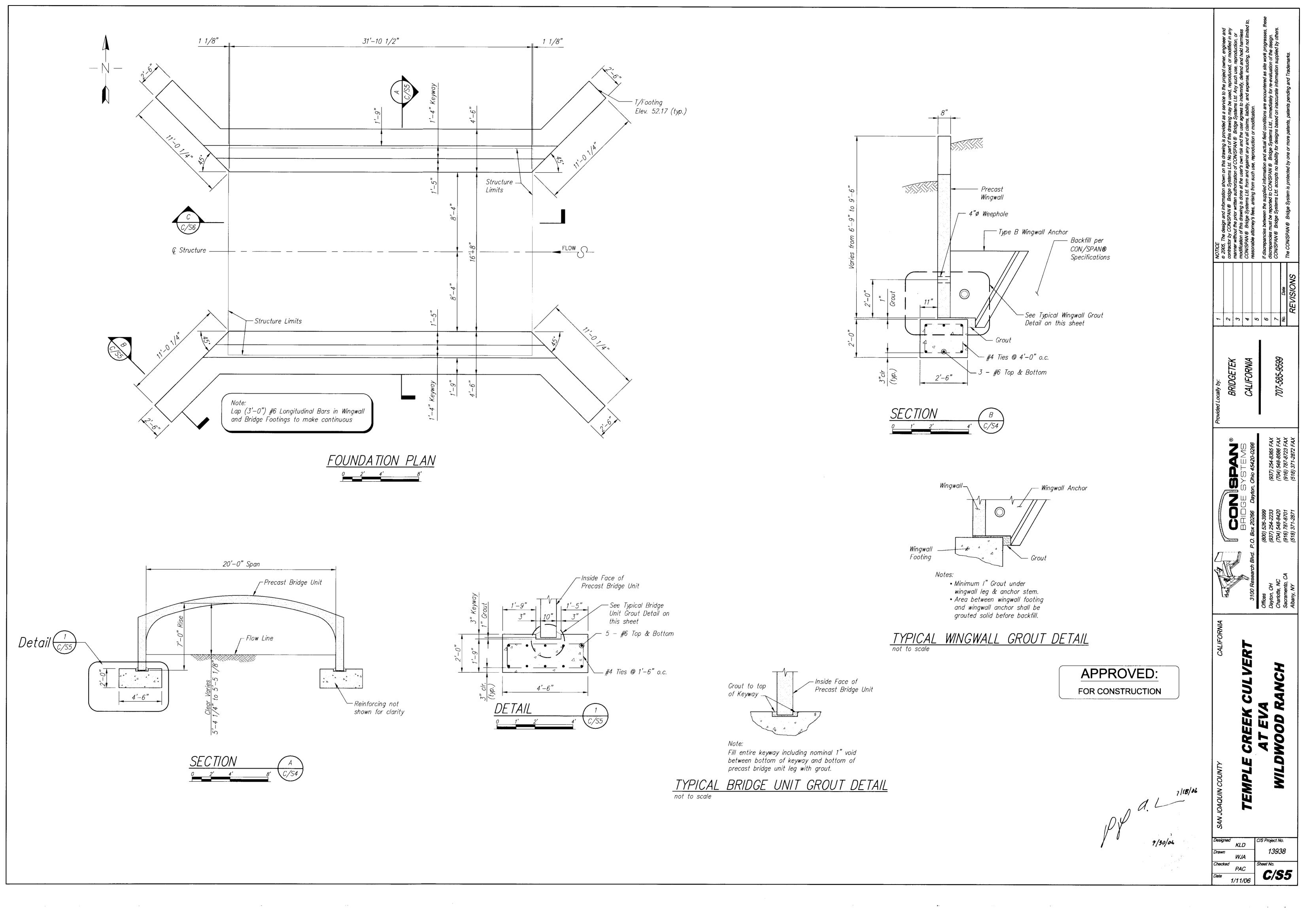
TYPICAL JOINT SEAL DETAIL not to scale

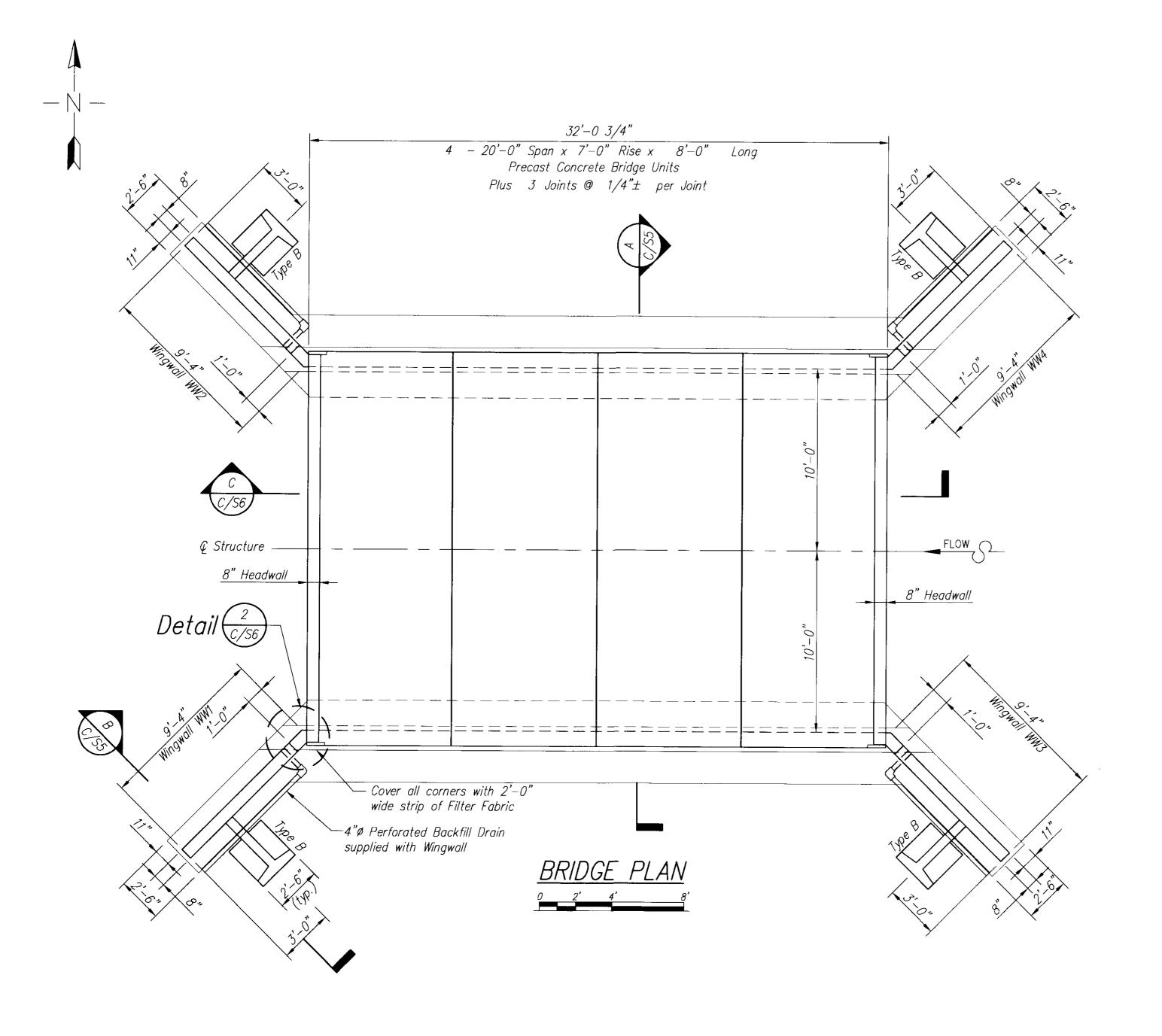


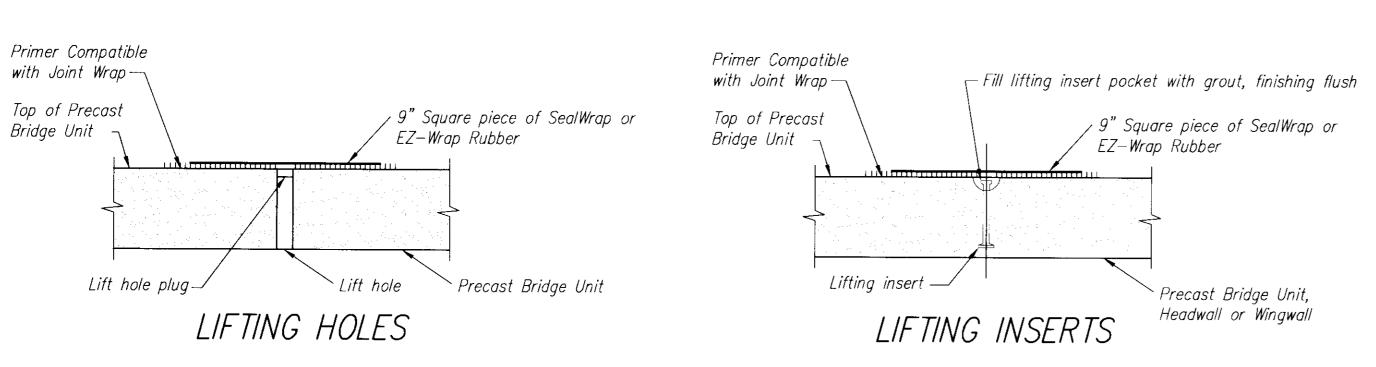
APPROVED: FOR CONSTRUCTION

KLD

1/11/06







TYPICAL LIFT POINT SEALING DETAIL
not to scale

<u>NOTES</u>

GENERAL NOTES:

- 1. This bridge has been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation including scour and confirmation of soil conditions.
- 2. Prior to construction, contractor must verify all elevations shown through the engineer.
- 3. Only BridgeTek, A Division of CONTECH Arch Technologies, Inc. the CON/SPAN® approved precaster in California may provide the structure designed in accordance with these plans.
- 4. The use of another precast structure with the design assumptions used for the CON/SPAN® structure may lead to serious design errors. Use of any other precast structure with this design and drawings voids any certification of this design and warranty. CON/SPAN® Bridge Systems assumes no liability for design of any alternate or similar type structures.
- 5. Alternate structures may be considered, provided that signed and sealed design drawings (and calculations) are submitted to the engineer 2 weeks prior to the bid date for review and approval.
- 6. Proposed alternates to a CON/SPAN® Bridge System must submit at least two (2) independently verified full scale load tests that confirm the proposed design methodology of the three sided/arch structure(s). The proposed alternate, upon satisfactory confirmation of design methodology, may be considered an acceptable alternate.

DESIGN DATA

32'-0 3/4"

LOCATION PLAN

16'-0 3/8"

16'-0 3/8"

© Structure —

Design Loading:
Bridge Units: HS20-

Bridge Units: HS20-44

Headwalls: Earth Pressure only
Wingwalls: Earth Pressure only

Design Fill Height: 2'-0" min. to 3'-0" max.
from top of crown to top of pavement.

Design Method: Load factor per AASHTO Specification
Net allowable soil bearing pressure: 2500 PSF *

Gross allowable soil bearing pressure: 2500 PSF *

*Foundation excavation and subgrade preparation shall be in accordance with the geotechnical report for this project prepared by Neil O. Anderson & Associates. dated 6/28/05.

MATERIALS

Precast units shall be constructed and installed in accordance with CON/SPAN® Specifications. Concrete for Footings shall have a minimum compressive strength of 4000 psi. Reinforcing steel for footings shall conform to ASTM A615 or A996-Grade 60.

APPROVED:

FOR CONSTRUCTION

1/18/ A. C. 1/18/ 1/30/06 7.

NOTICE
© 2005. The design and information shown on this drawing is provided as a service to the project owner, engineer a contractor by CON/SPAN® Bridge Systems Ltd. No part of this drawing may be used, reproduction, or modification of this drawing is done at the user agrees to indemnify, defend and hold harmle manner without the prior written authorization of CON/SPAN® Bridge Systems Ltd. from and against any and all claims, liability, and expense, including, but not lin reasonable attorney's fees, arising from such use, reproduction or modification.

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If discrepancies between the supplied information and actual field conditions are encountered as site work progress discrepancies must be reported to CON/SPAN® Bridge Systems Ltd., immediately for re-evaluation of the design.

CON/SPAN® Bridge Systems Ltd. accepts no liability for designs based on inaccurate information supplied by othe REVISIONS

The CON/SPAN® Bridge System is protected by one or more patents, patents pending and Trademarks.

BRIDGETEK

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3100 Research Blwd. P.O. E
Offices (800
Dayton, OH (937
Charlotte, NC (704
Sacramento, CA (916

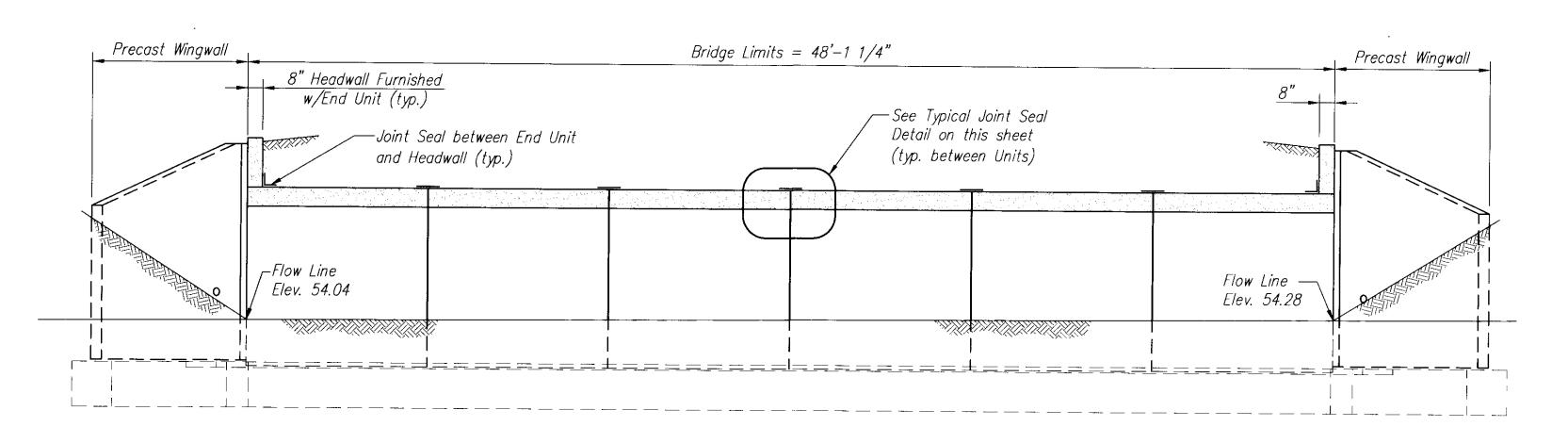
EMPLE CREEK CULVERT AT EVA WILDWOOD RANCH

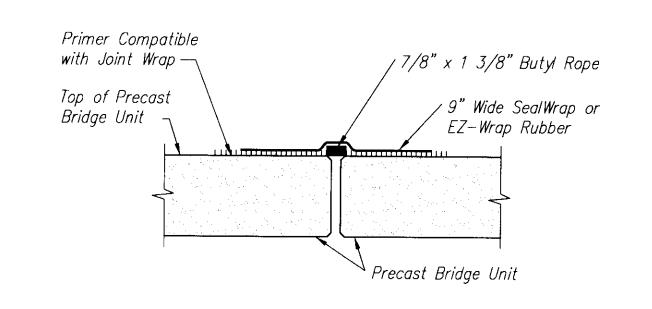
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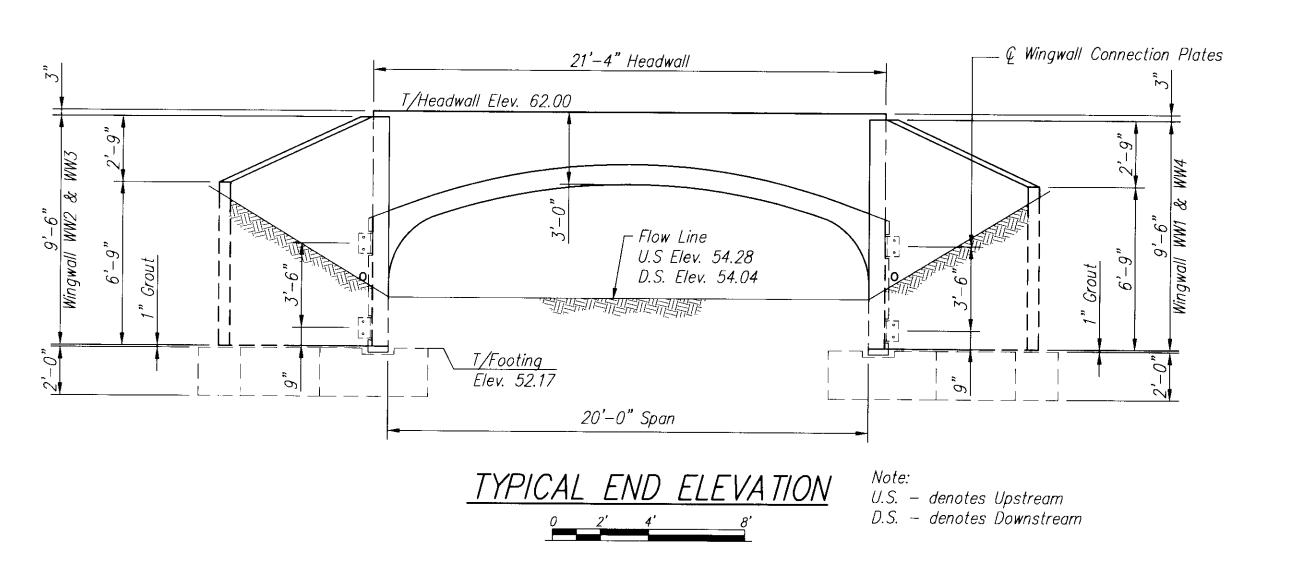
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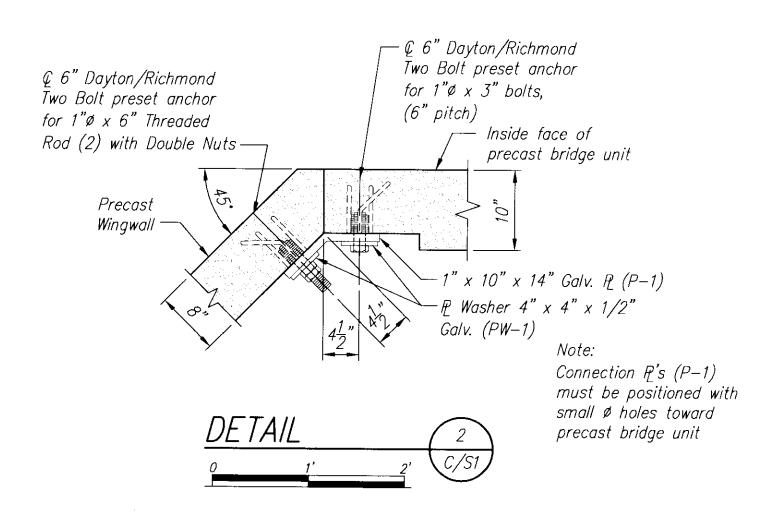






TYPICAL JOINT SEAL DETAIL not to scale

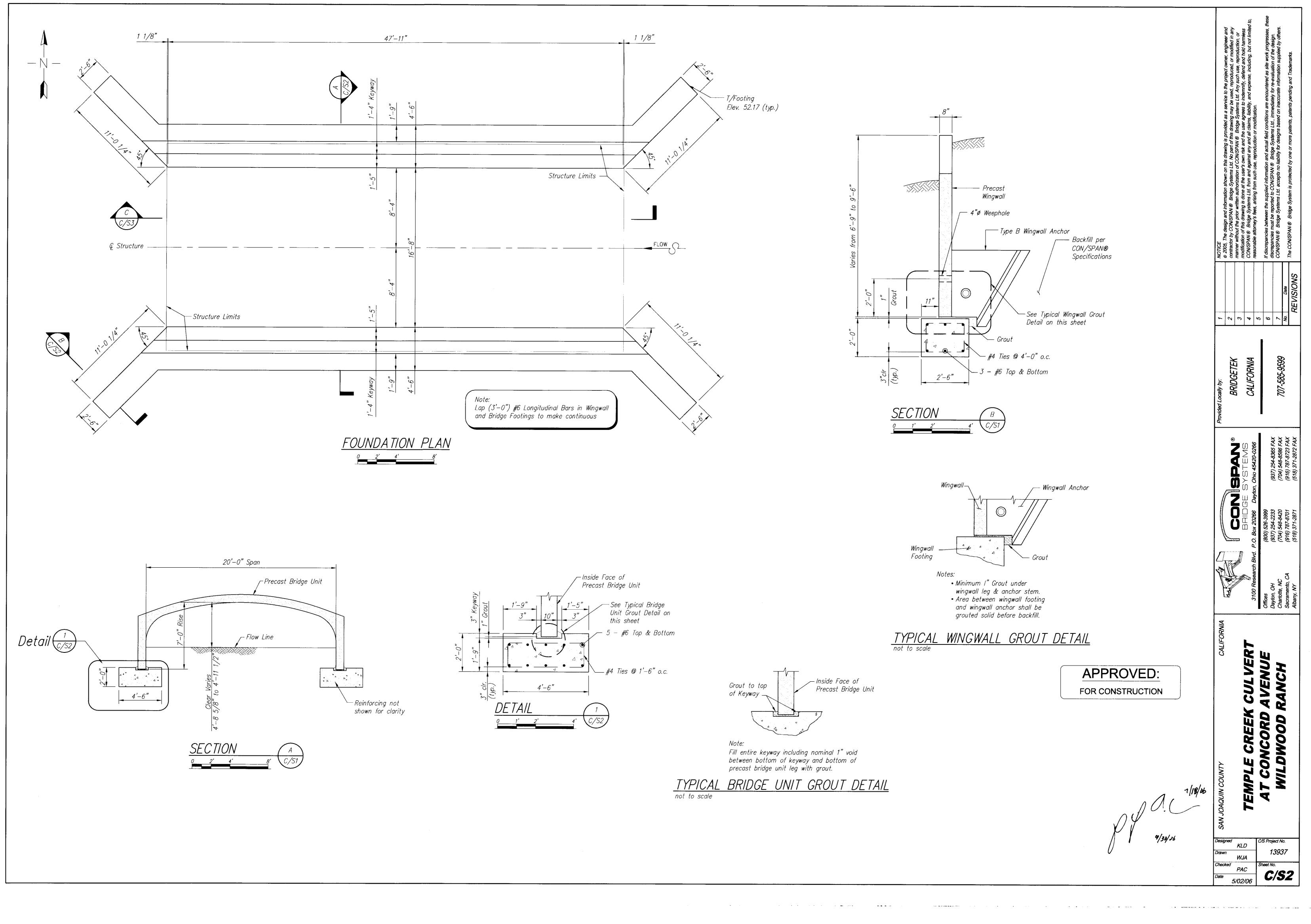


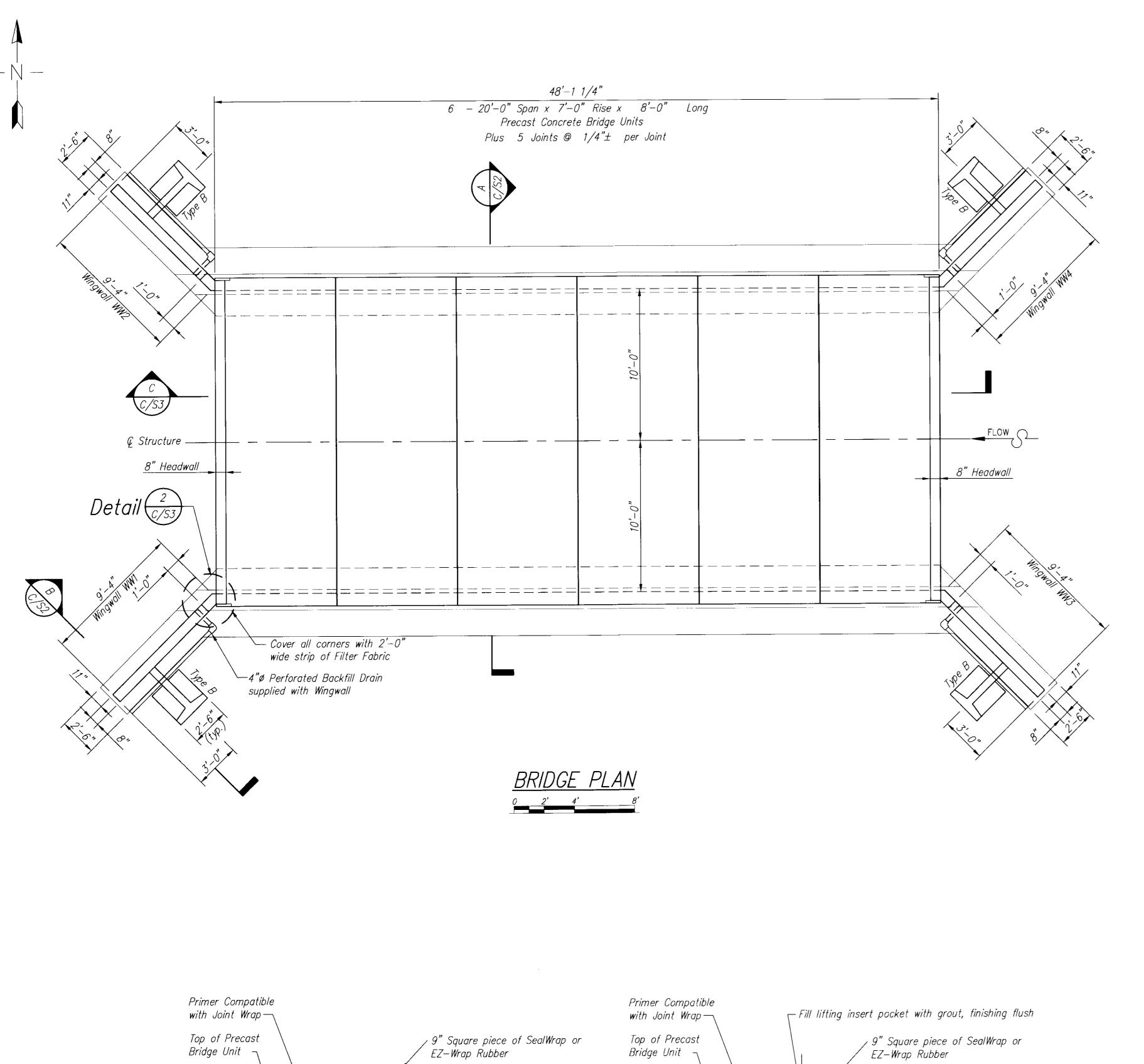


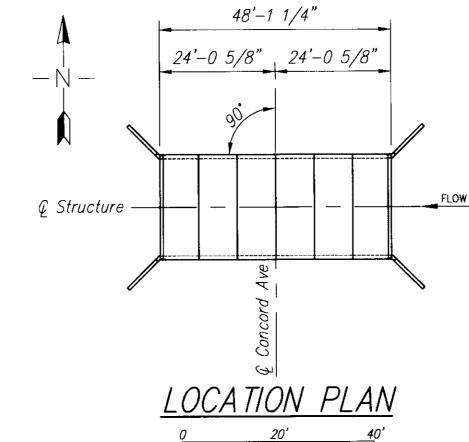
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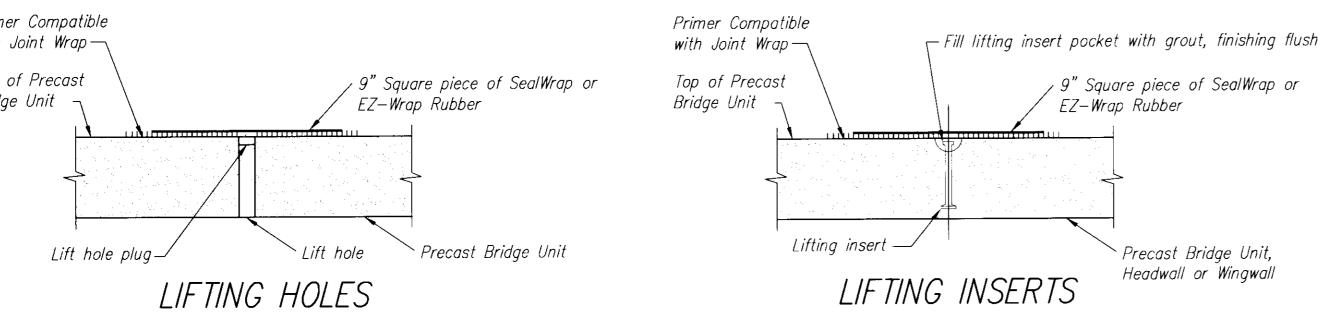
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5/02/06









TYPICAL LIFT POINT SEALING DETAIL

not to scale

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<u>NOTES</u>

GENERAL NOTES:

- 1. This bridge has been designed for general site conditions. The project engineer shall be responsible for the structure's suitability to the existing site conditions and for the hydraulic evaluation including scour and confirmation of soil conditions.
- 2. Prior to construction, contractor must verify all elevations shown through the engineer.
- 3. Only BridgeTek, A Division of CONTECH Arch Technologies, Inc. the CON/SPAN® approved precaster in California may provide the structure designed in accordance with these plans.
- 4. The use of another precast structure with the design assumptions used for the CON/SPAN® structure may lead to serious design errors. Use of any other precast structure with this design and drawings voids any certification of this design and warranty. CON/SPAN® Bridge Systems assumes no liability for design of any alternate or similar type structures.
- 5. Alternate structures may be considered, provided that signed and sealed design drawings (and calculations) are submitted to the engineer 2 weeks prior to the bid date for review and approval.
- 6. Proposed alternates to a CON/SPAN® Bridge System must submit at least two (2) independently verified full scale load tests that confirm the proposed design methodology of the three sided/arch structure(s). The proposed alternate, upon satisfactory confirmation of design methodology, may be considered an acceptable alternate.

<u>DESIGN DATA</u>

Design Loading:

Bridge Units: HS20-44

Headwalls: Earth Pressure only
Wingwalls: Earth Pressure only

Design Fill Height: 2'-0" min. to 3'-0" max.

from top of crown to top of pavement.

Design Method: Load factor per AASHTO Specification

Net allowable soil bearing pressure: 2500 PSF *

Gross allowable soil bearing pressure: 2500 PSF *

*Foundation excavation and subgrade preparation shall be in accordance with the geotechnical report for this project prepared by Neil O. Anderson & Associates. dated 6/28/05.

<u>MATERIALS</u>

Precast units shall be constructed and installed in accordance with CON/SPAN® Specifications. Concrete for Footings shall have a minimum compressive strength of 4000 psi. Reinforcing steel for footings shall conform to ASTM A615 or A996—Grade 60.

APPROVED: FOR CONSTRUCTION

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MPLE CREEK CULVER
T CONCORD AVENUE
WILDWOOD RANCH

C/S Project No.
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GENERAL NOTES:

1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE EFFECTIVE FOR THE DURATION OF THE CONSTRUCTION ACTIVITY.

2. NO STORM RUNOFF WATER SHALL BE ALLOWED TO DRAIN DIRECTLY INTO THE EXISTING UNDERGROUND STORM SYSTEM BEFORE THE ON-SITE STORM DRAIN SYSTEM IS INSTALLED.

3. AS SOON AS IS PRACTICAL AFTER THE NEW ON-SITE STORM DRAIN SYSTEM IS INSTALLED, THE CATCH BASINS SHALL BE INSTALLED AND GRAVEL BAGS AND SCREENS SHALL BE PLACED AROUND THE CATCH BASINS, AS SHOWN. THE CONTRACTOR SHALL HAVE AN OPTION TO INSTALL PREFABRICATED STEEL FRAMES WITH FILTER SCREEN OF FILTER FABRIC ATTACHED TO THE FRONT OF THE DRAIN INLET AND EXTEND 12 INCHES (12") ON EACH SIDE OF THE DRAIN INLET OPENING. FRAME SHALL BE APPROVED BY THE CITY ENGINEER AND SHALL FIT THE OPENING WITH LESS THAN ONE—QUARTER INCH (1/4")

4. THE NAME, ADDRESS AND 24—HOUR TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE PROVIDED.

5. A MINIMUM OF 50' OF DRAIN ROCK, 1-1/2'' DIAMETER OR LARGER, AT A MINIMUM DEPTH OF 6'', SHALL BE INSTALLED AT EACH DRIVEWAY ENTRANCE TO THE SITE. THIS DOES NOT NEED TO BE DONE AT DRIVEWAYS, WHICH WILL BE CLOSED BY IMMOVABLE BARRICADES DURING CONSTRUCTION.

6. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS, BUT ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE

7. DURING THE RAINY SEASON ALL SIDEWALK AND PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF FROM ENTERING ANY STORM DRAINAGE SYSTEM.

8. THE EROSION AND SEDIMENTATION CONTROL PLAN COVERS ONLY THE FIRST WINTER DURING WHICH CONSTRUCTION IS TO TAKE PLACE. PLANS ARE TO BE RESUBMITTED PRIOR TO SEPTEMBER 1 OF EACH SUBSEQUENT YEAR UNTIL THE CITY ACCEPTS THE SITE IMPROVEMENTS.

9. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT AND REPAIR ALL EROSION CONTROL FACILITIES AT THE END OF EACH WORK DAY DURING THE RAINY SEASON.

10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CLEAN OUT SEDIMENT BASINS WHENEVER THE LEVEL OF SEDIMENT REACHES THE SEDIMENT CLEAN OUT LEVEL INDICATED ON THE PLANS.

11. IT IS THE RESPONSIBILITIES OF THE CONTRACTOR TO PROTECT TEMPORARY BORROW AREAS AND/OR STOCKPILES WITH APPROPRIATE EROSION CONTROL MEASURES SATISFACTORY TO THE CITY ENGINEER.

12. THE CLEANING OF PAVED STREETS, DURING AND AT THE COMPLETION OF CONSTRUCTION, SHALL BE PERFORMED WITH MECHANICAL SWEEPERS. THE USE OF WATER TRUCKS TO "WASH DOWN" THE STREET is prohibited.

13. SEAL OR SKIRT BETWEEN TRAILER & GRADING TO PREVENT EXPOSURE TO DRAIN.

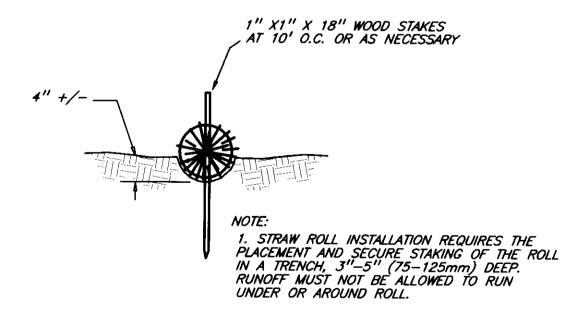
14. THE FOLLOWING PLANS ARE ACCURATE FOR EROSION CONTROL PURPOSES ONLY.

15. THE INFORMATION ON THIS PLAN IS INTENDED TO BE USED AS A GUIDELINE FOR THE CONTRACTOR AND SUBCONTRACTORS TO COMPLY WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD. FIELD CONDITIONS MAY NECESSITATE MODIFICATIONS TO THIS PLAN.

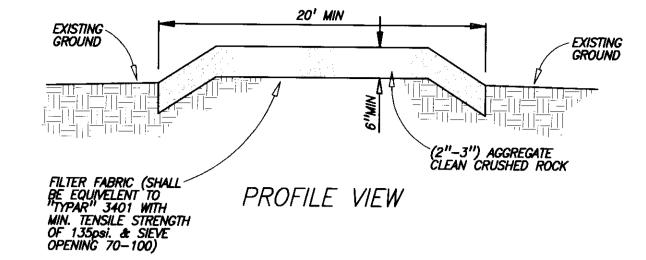
16. NO ON-SITE FUELING SHALL TAKE PLACE.

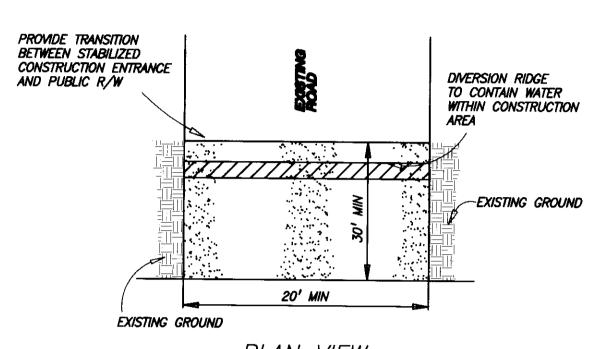
STRAW ROLL OR FIBER ROLL NOTES

. INSPECT AND REPAIR ROLL AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.



STRAW ROLLS





PLAN VIEW STABILIZED CONSTRUCTION ENTRANCE

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE NOTES

1. THE MATERIAL FOR CONSTRUCTION OF THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE 2 TO 3 INCH STONE. 2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 6 INCHES.

3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS, OR 30' MIN. 1. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET.

5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN OUT ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY.

6. WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP, OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SANDBAGS, GRAVEL, BOARDS, OR OTHER APPROVED METHODS. 7. CONTRACTOR TO REMOVE AND DISPOSE OF STABILIZED CONSTRUCTION ENTRANCE UPON COMPLETION OF CONSTRUCTION.

CONCRETE WASTE MANAGEMENT NOTES

CONCRETE SLURRY WASTES

1. PCC AND AC WASTE SHALL NOT BE ALLOWED TO ENTER STORM DRAINS OR WATERCOURSES. 2. PCC AND AC WASTE SHALL BE COLLECTED AND DISPOSED OF OUTSIDE THE HIGHWAY RIGHT-OF-WAY IN CONFORMANCE WITH SECTION 7-1.13 OF STANDARD SPECIFICATIONS OR PLACED IN A TEMPORARY

3. DISPOSAL OF HARDENED PCC AND AC WASTE SHALL BE INCONFORMANCE WITH SECTION 15-3.02 OF THE STANDARD SPECIFICATIONS.

4. A SIGN SHALL BE INSTALLED ADJACENT TO EACH TEMPORARY CONCRETE WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

5. DO NOT ALLOW SLURRY RESIDUE FROM WET CORING OR SAW-CUTTING AC OR PCC TO ENTER STORM DRAINS OR RECEIVING WATERS.

6. VACUUM SLURRY RESIDUE AND DISPOSE IN A TEMPORARY PIT (AS DESCRIBED IN ON-SITE TEMPORARY CONCRETE WASHOUT FACILITY, CONCRETE TRANSIT TRUCK WASHOUT PROCEDURES, BELOW) AND ALLOW SLURRY TO DRY. DISPOSE OF DRY SLURRY RESIDUE IN ACCORDANCE WITH BMP WM-5, "SOLID WASTE MANAGEMENT", OR, FOR ON-SITE DISPOSAL, IN ACCORDANCE WITH STANDARD SPECIFICATION 15-3.02, REMOVAL METHODS.

7. COLLECT RESIDUE FROM GROOVING AND GRINDING OPERATIONS IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 42-1.02 AND 42-2.02. "CONSTRUCTION."

ON-SITE TEMPORARY CONCRETE WASHOUT FACILITY, TRANSIT TRUCK WASHOUT PROCEDURES

1. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 15 M (50 FT.) FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERCOURSES, UNLESS DETERMINED UNFEASIBLE BY THE ENGINEER. EACH FACILITY SHALL BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.

2. A SIGN SHALL BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES. THE SIGN SHALL BE INSTALLED AS SHOWN ON THE PLANS AND IN CONFORMANCE WITH THE PROVISIONS IN SECTION 56-2, "ROADSIDE SIGNS", OF THE

3. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED ABOVE GRADE. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS.

4. TEMPORARY WASHOUT FACILITIES SHALL HAVE A TEMPORARY PIT OR BERMED AREAS OF SUFFICIENT VOLUME TO COMPLETELY CONTAIN ALL LIQUID AND WASTE CONCRETE MATERIALS GENERATED DURING WASHOUT PROCEDURES.

5. PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.

6. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN. THE CONCRETE SHALL BE BROKEN UP, REMOVED, AND DISPOSED OF PER BMP WM-5, "SOLID WASTE MANAGEMENT", AND IN CONFORMANCE WITH THE PROVISIONS IN SECTION 15-3.02, "REMOVAL METHODS", OF THE STANDARD SPECIFICATIONS. DISPOSE OF HARDENED CONCRETE ON A REGULAR BASIS.

TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE)

·TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 3 M (10 FEET), BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE LENGTH AND WIDTH OF A FACILITY MAY BE INCREASED, AT THE CONTRACTOR'S EXPENSE, UPON APPROVAL OF THE ENGINEER.

PLASTIC LINING MATERIAL SHALL BE A MINIMUM OF 60 ML POLYETHYLENE SHEETING AND SHALL BE FREE OF HOLES, TEARS OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

PORTABLE DELINEATORS SHALL CONFORM TO THE PROVISIONS IN SECTION 12-3.04, "PORTABLE DELINEATORS", OF THE STANDARD SPECIFICATIONS. THE DELINEATOR BASES SHALL BE CEMENTED TO THE PAVEMENT IN THE SAME MANNER AS PROVIDED FOR CEMENTING PAVEMENT MARKERS TO PAVEMENT IN SECTION 85-1.06, "PLACEMENT", OF THE STANDARD SPECIFICATIONS. PORTABLE DELINEATORS SHALL BE APPLIED ONLY TO A CLEAN, DRY SURFACE.

REMOVAL OF TEMPORARY CONCRETE WASHOUT FACILITIES

1. WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, AS DETERMINED BY THE ENGINEER, THE HARDENED CONCRETE SHALL BE REMOVED AND DISPOSED OF IN CONFORMANCE WITH THE PROVISIONS IN SECTION 15-3.02 OF THE STANDARD SPECIFICATIONS. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BECOME THE PROPERTY OF THE CONTRACTOR, SHALL BE REMOVED FROM THE SITE OF THE WORK, AND SHALL BE DISPOSED OF OUTSIDE THE HIGHWAY RIGHT—OF—WAY IN CONFORMANCE WITH THE PROVISIONS IN SECTION 7—1.13 OF THE STANDARD SPECIFICATIONS.

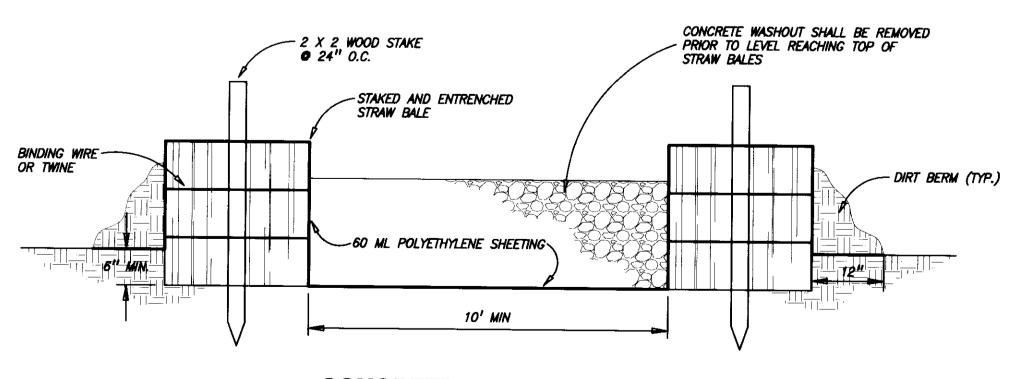
2. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED AND REPAIRED IN CONFORMANCE WITH THE PROVISIONS IN SECTION 15-1.02 "PRESERVATION OF PROPERTY". OF THE STANDARD SPECIFICATIONS.

3. THE CONTRACTOR'S WASTE POLLUTION CONTROL MANAGER (WPCM) SHALL MONITOR ON SITE CONCRETE WASTE STORAGE AND DISPOSAL PROCEDURES AT LEAST WEEKLY.

4. THE WPCM SHALL MONITOR CONCRETE WORKING TASKS, SUCH AS SAW CUTTING, CORING, GRINDING AND GROOVING AT LEAST WEEKLY TO ENSURE PROPER METHODS ARE EMPLOYED.

5. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM FREEBOARD OF 4" FOR ABOVE GRADE FACILITIES AND 12" FOR BELOW GRADE FACILITIES. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND RETURNING THE FACILITIES TO A FUNCTIONAL CONDITION. HARDENED CONCRETE MATERIALS SHALL BE REMOVED AND DISPOSED OF IN CONFORMANCE WITH THE PROVISIONS IN SECTION 15-3.02, "REMOVAL METHODS", OF THE STANDARD SPECIFICATIONS.

6. EXISTING FACILITIES MUST BE CLEANED, OR NEW FACILITIES MUST BE CONSTRUCTED AND READY FOR USE ONCE THE WASHOUT IS 75% FULL.

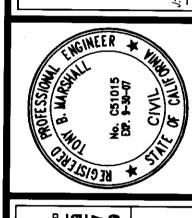


CONCRETE WASHOUT AREA

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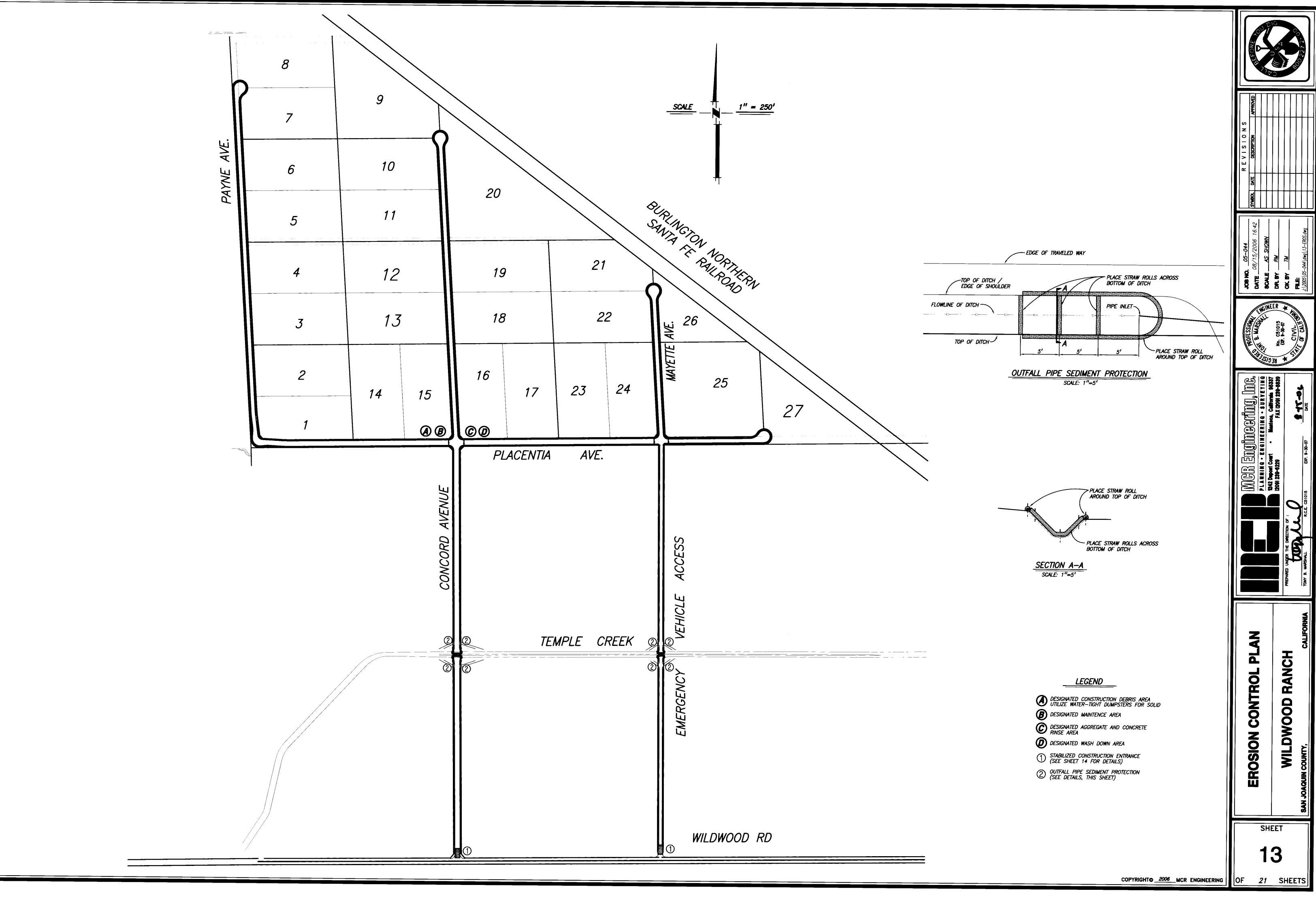
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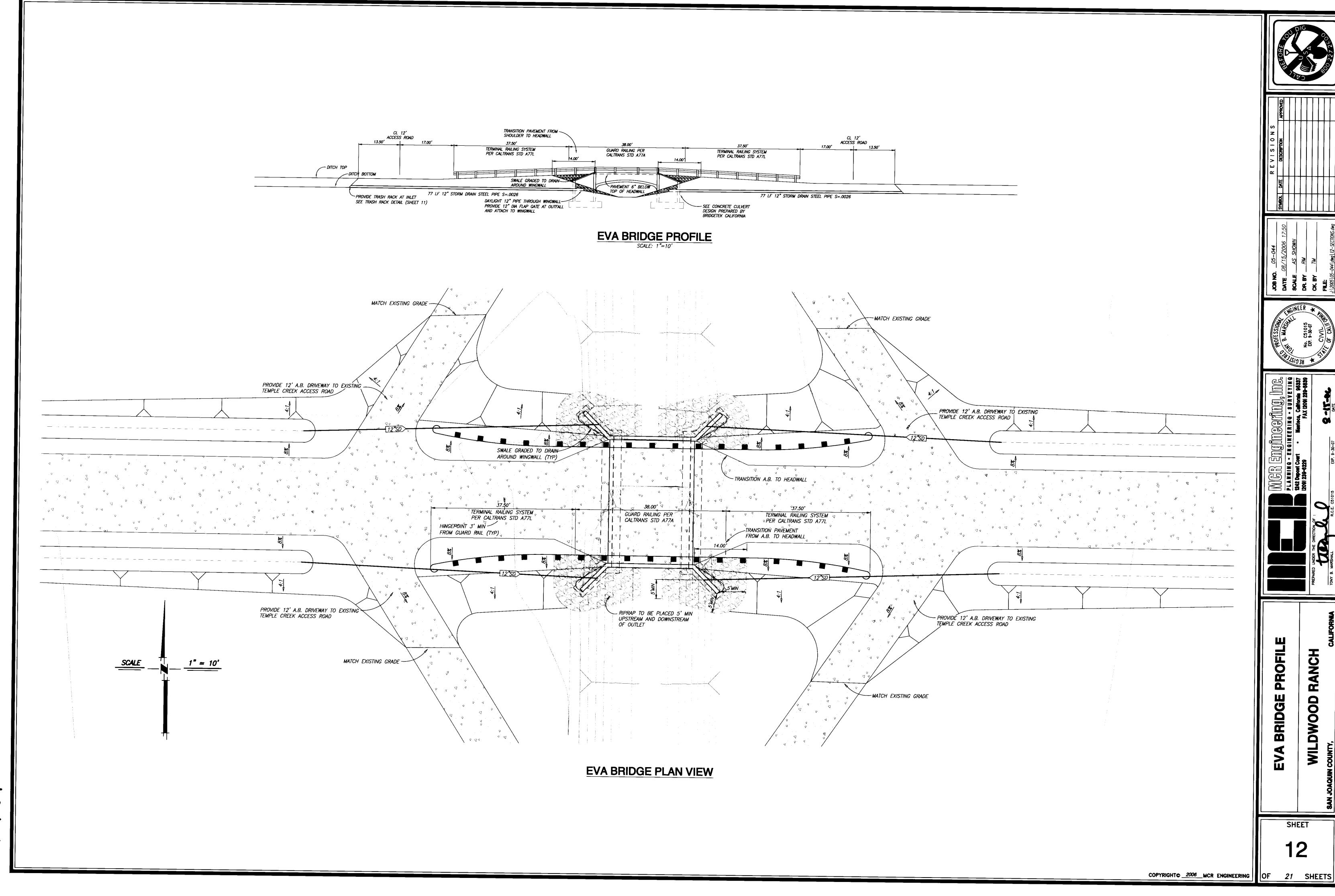
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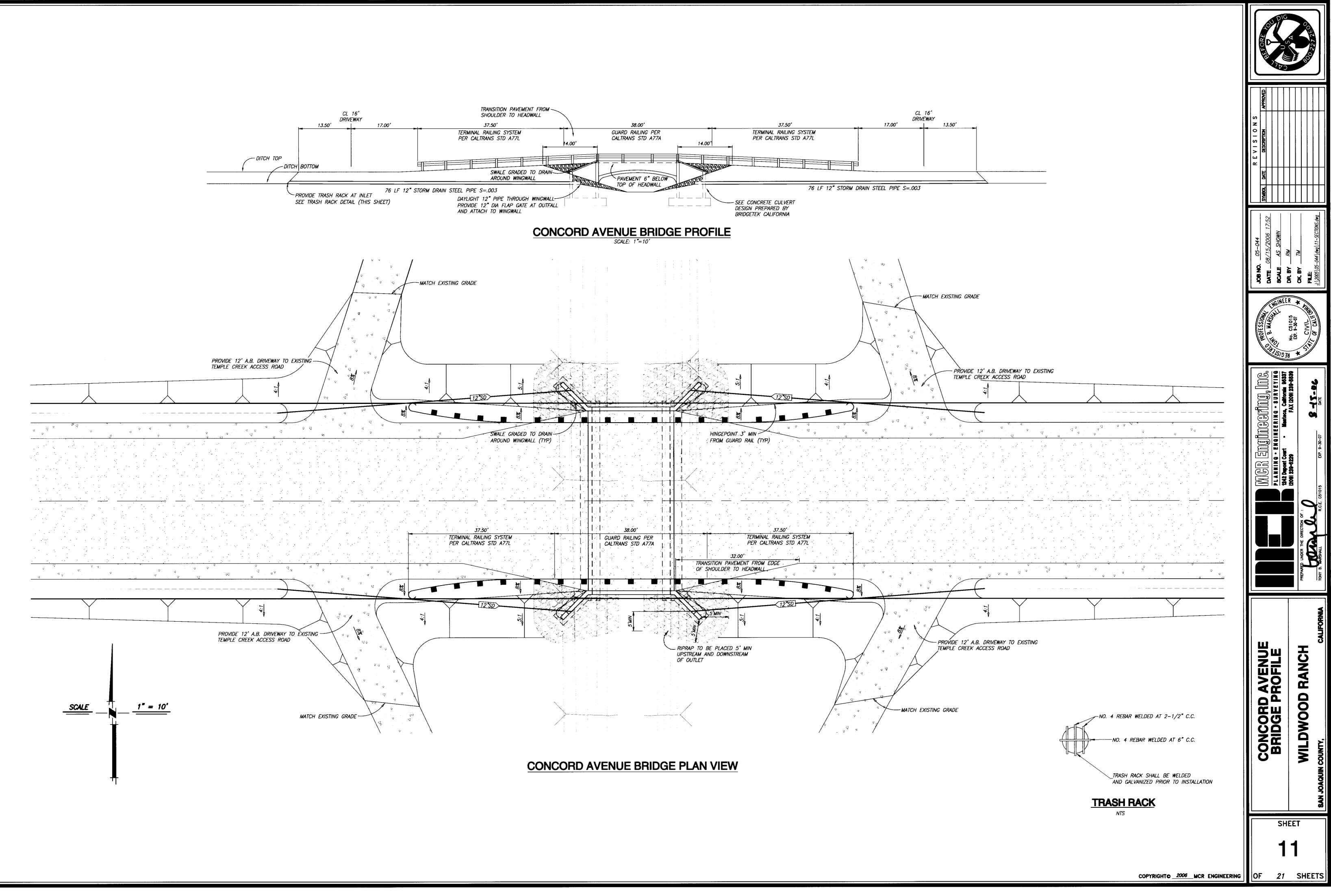
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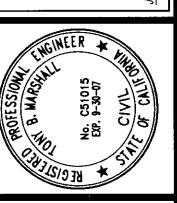






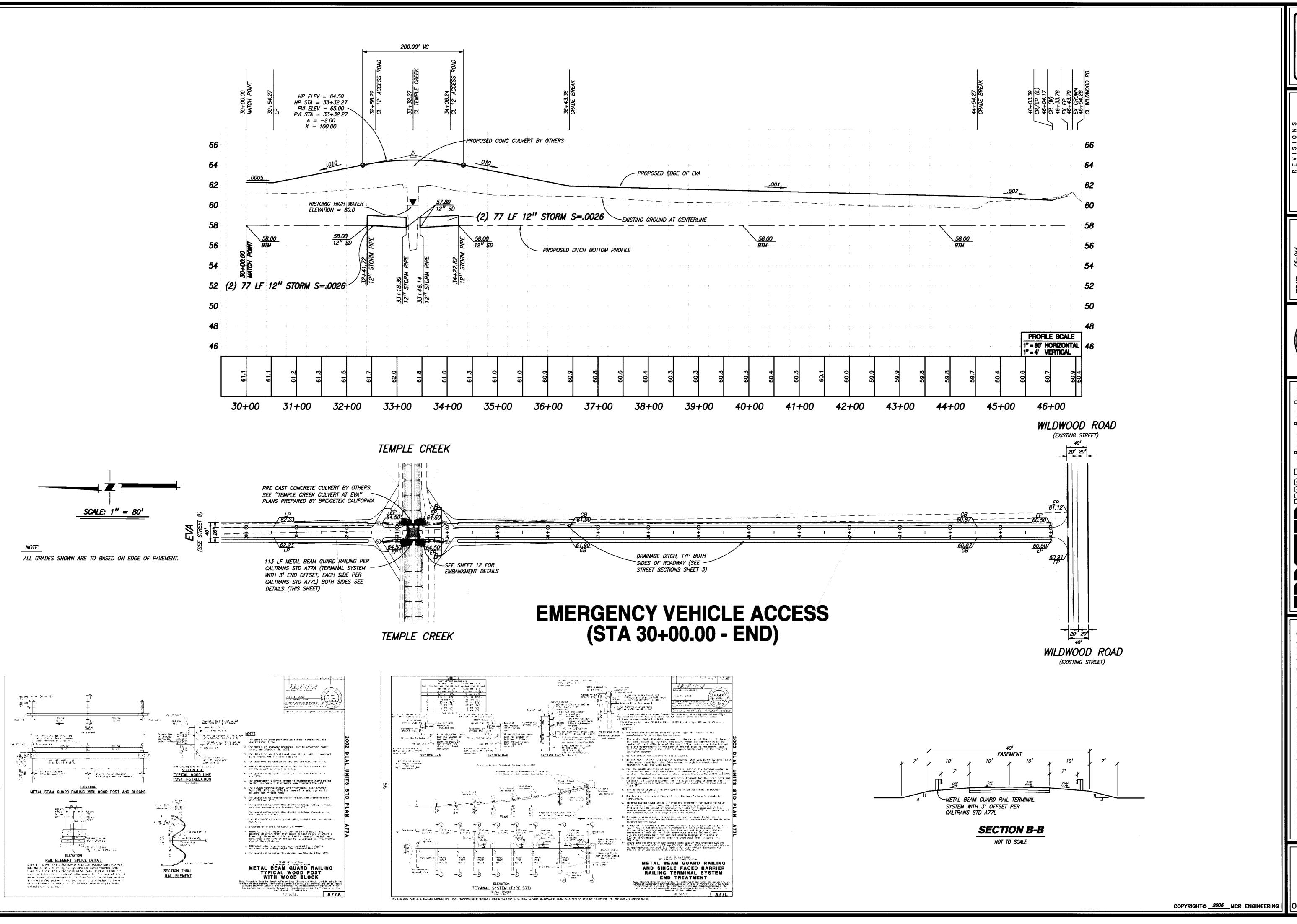




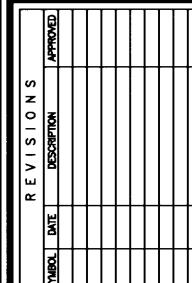


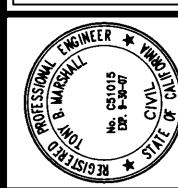
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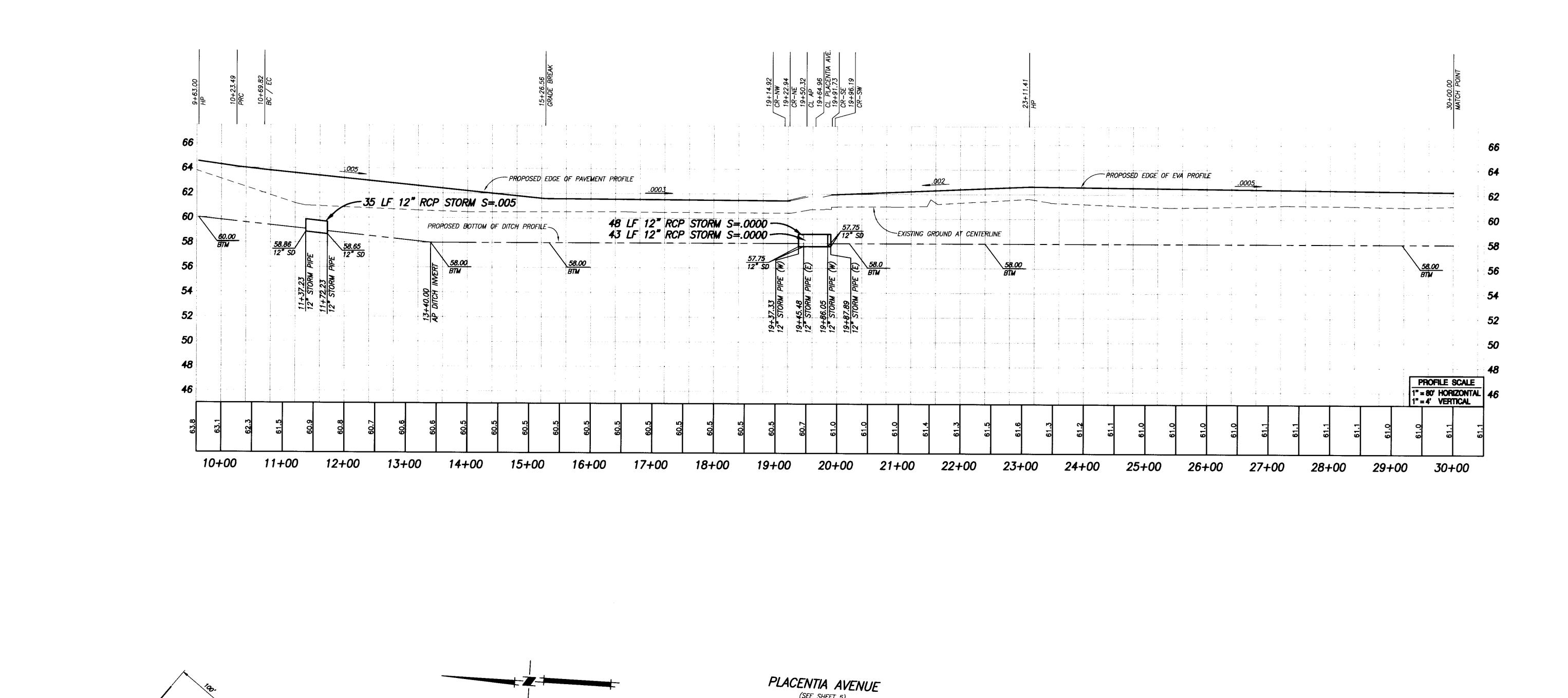


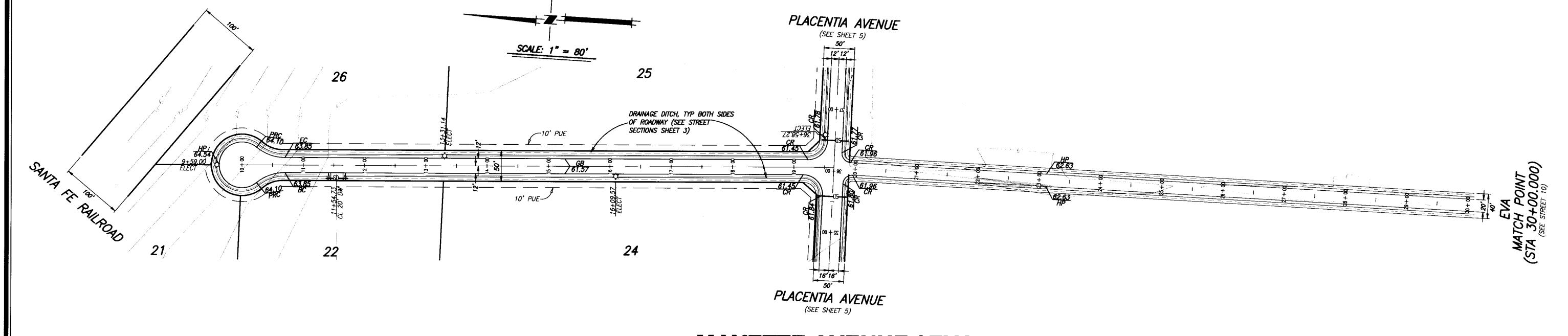


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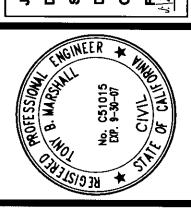
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SYMBOL DATE DESCRIPTION APPROVED

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Mentoca, Cathornia 98337
FAX 12091 229-8839

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INTERMINE ENGINEERING SUR

PLANNING ENGINEERING SUR

1242 Dupont Court Martecs, Cafford

12091 239-9220 FAX 1209

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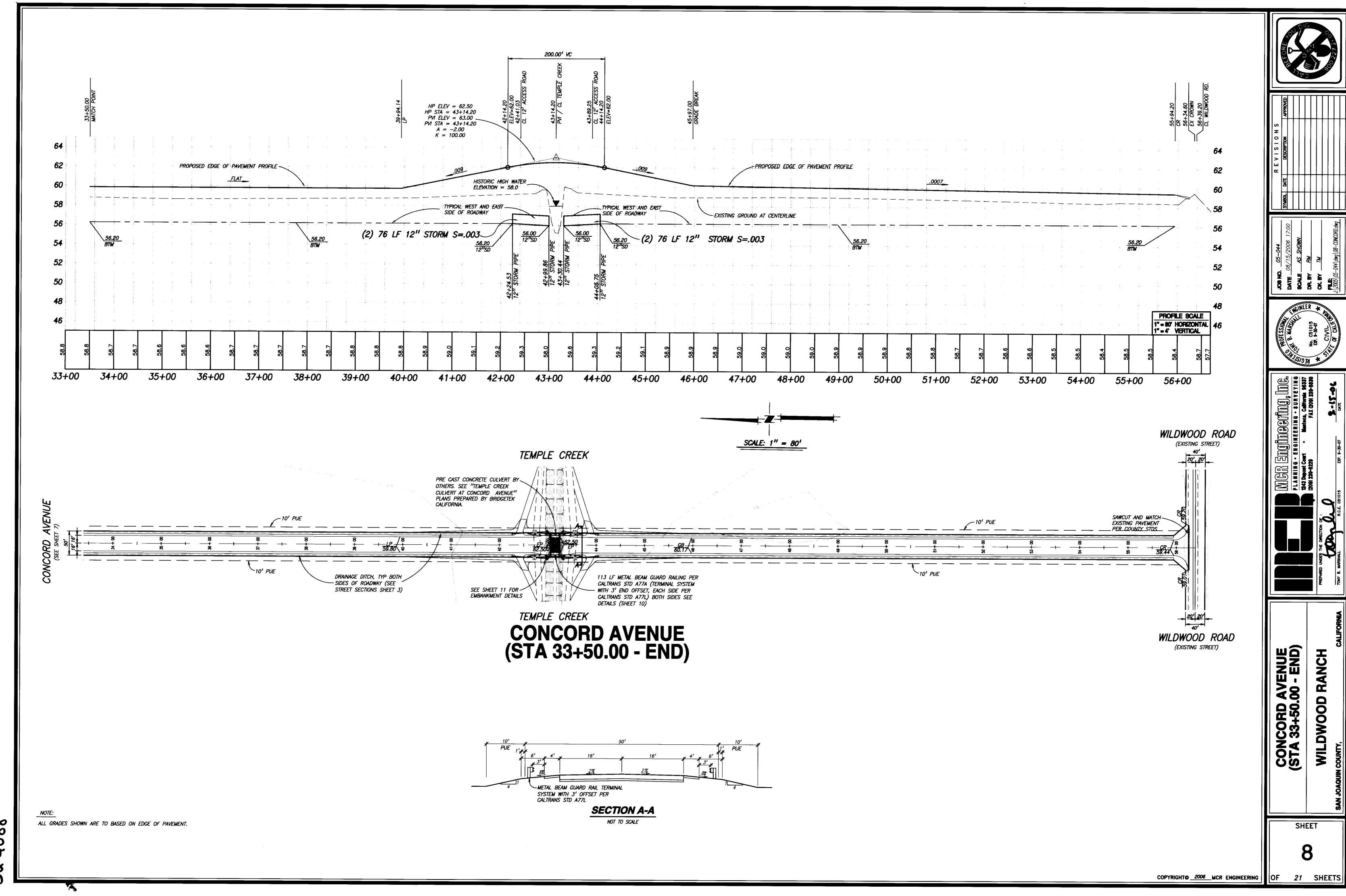
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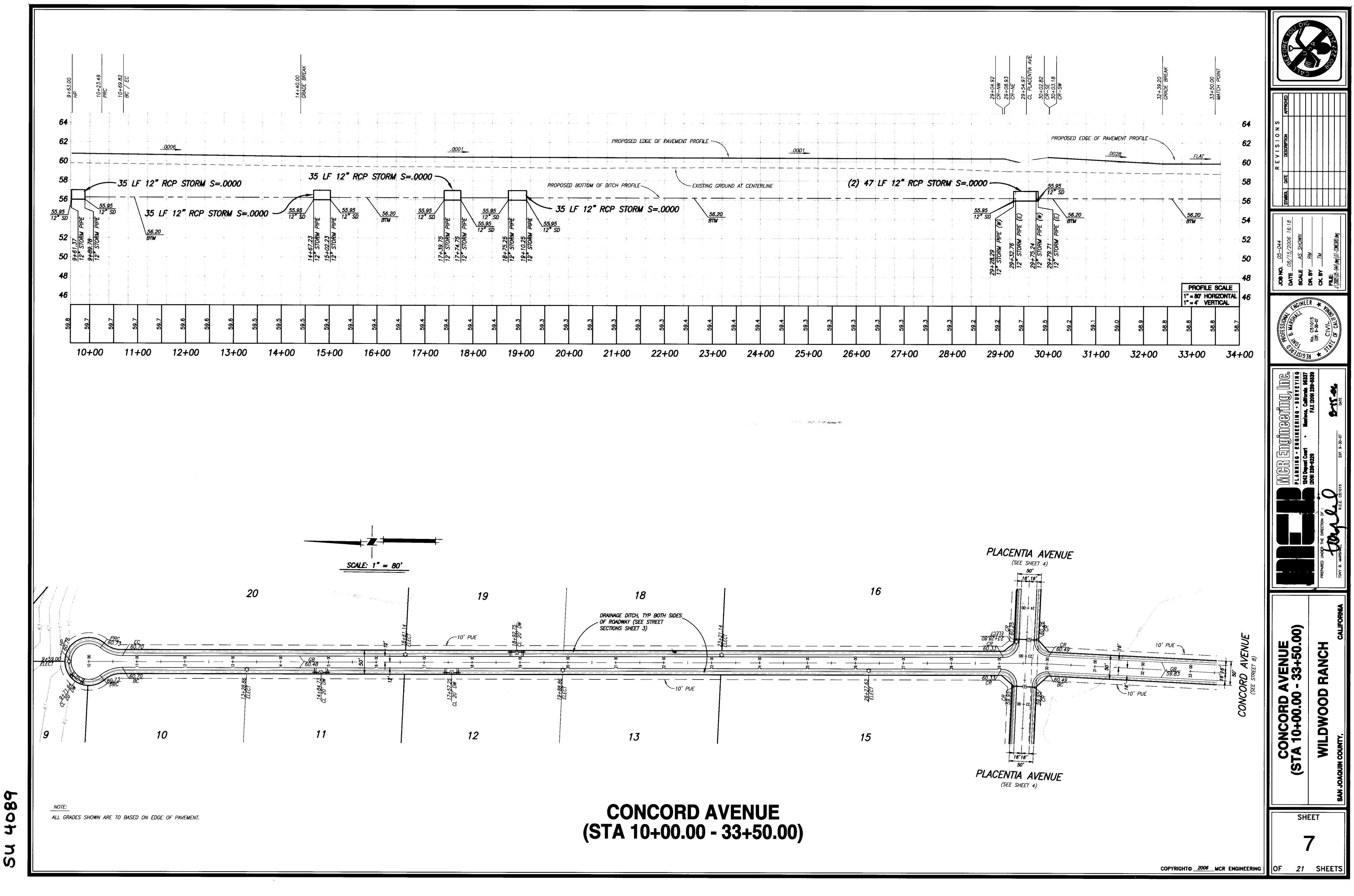
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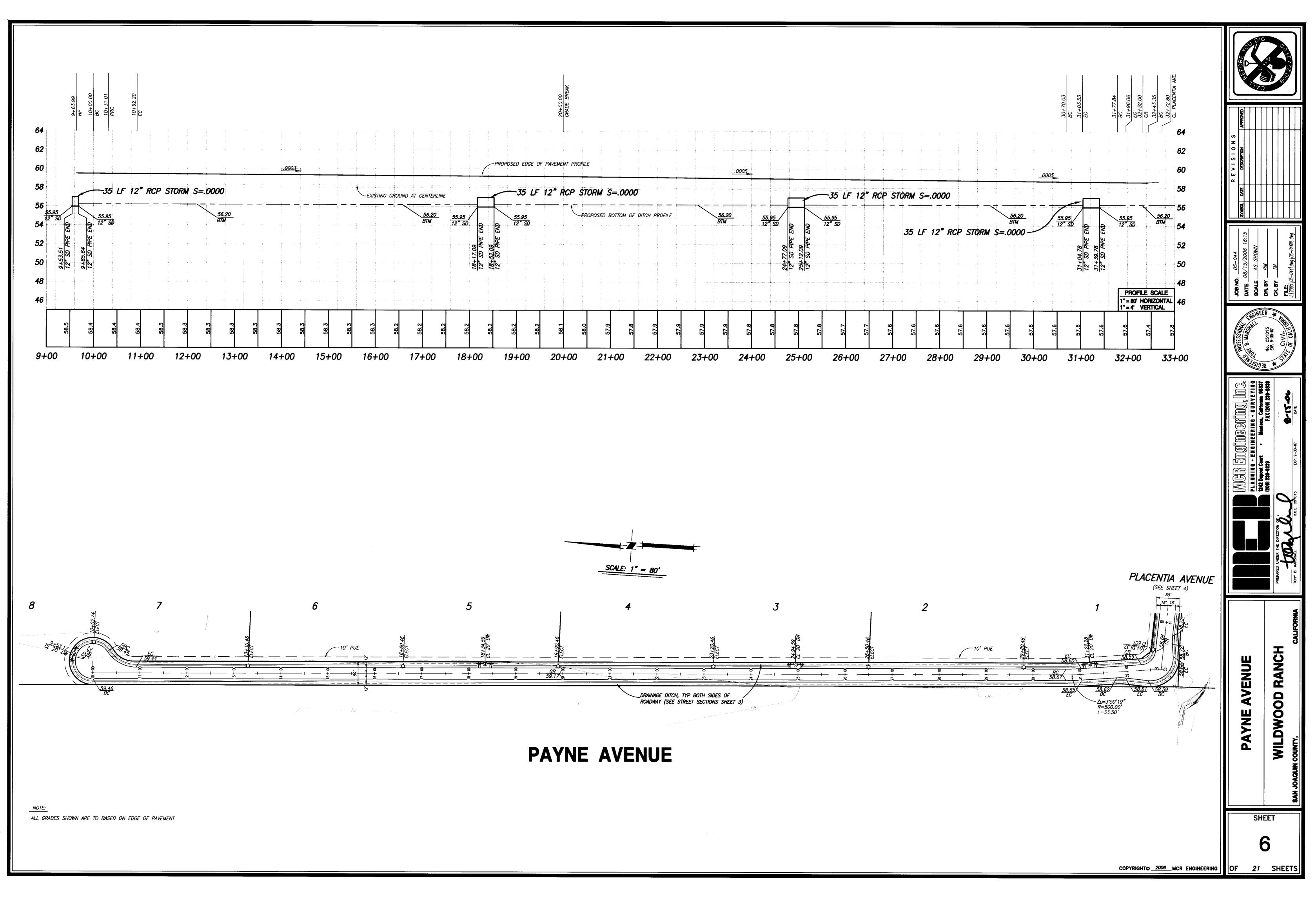
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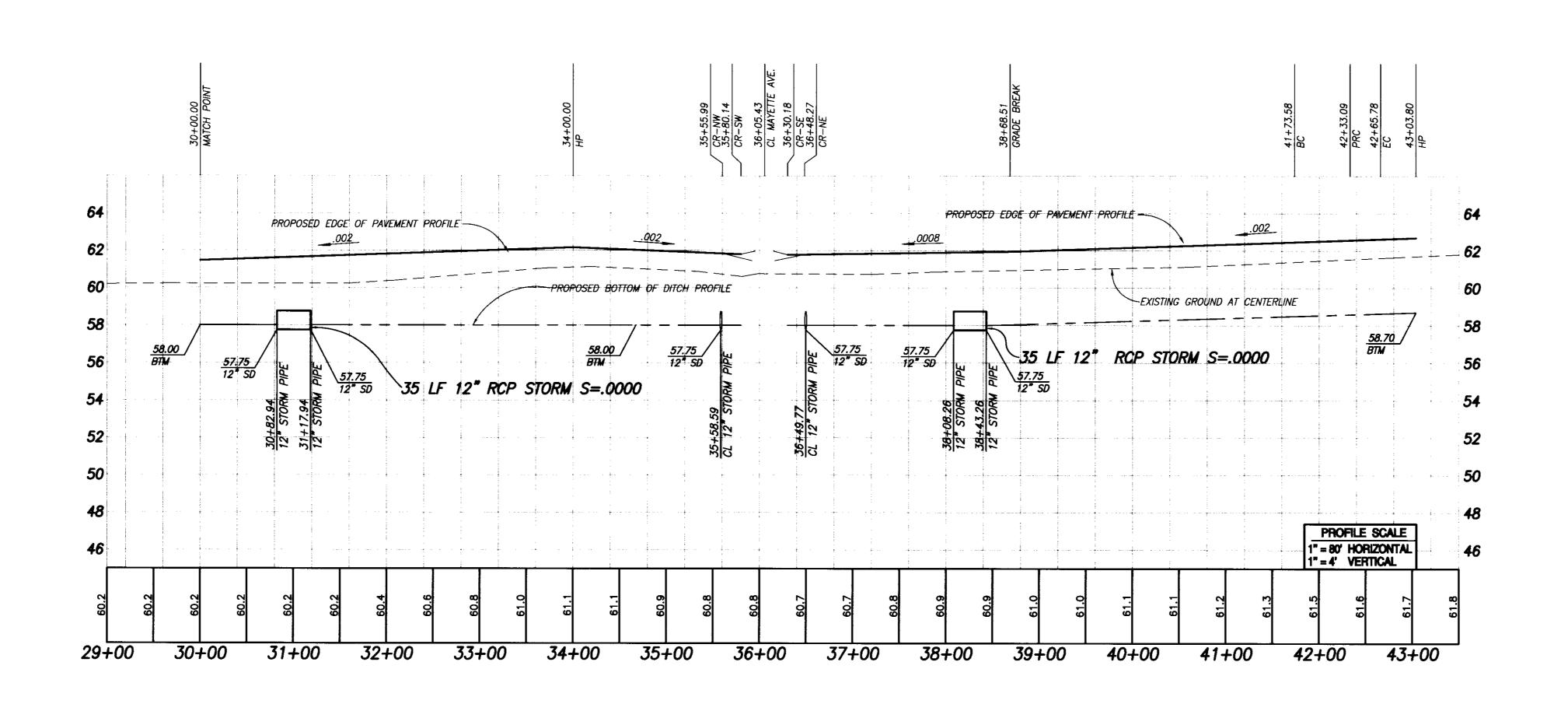
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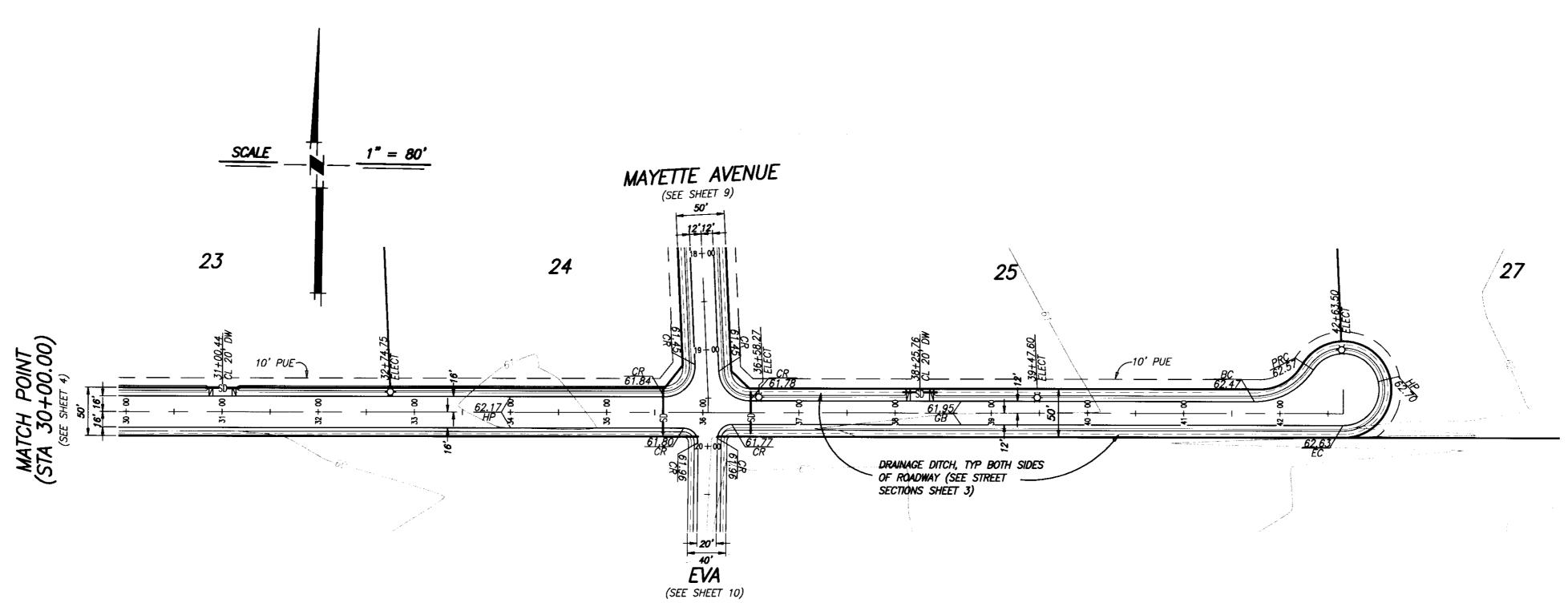


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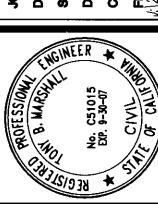
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DR. BY RM

CK. BY TM

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PLANNING ENGINEERING SUI

1242 Deport Court Hartsca, Callto
12091 239-5229 FAX 1209

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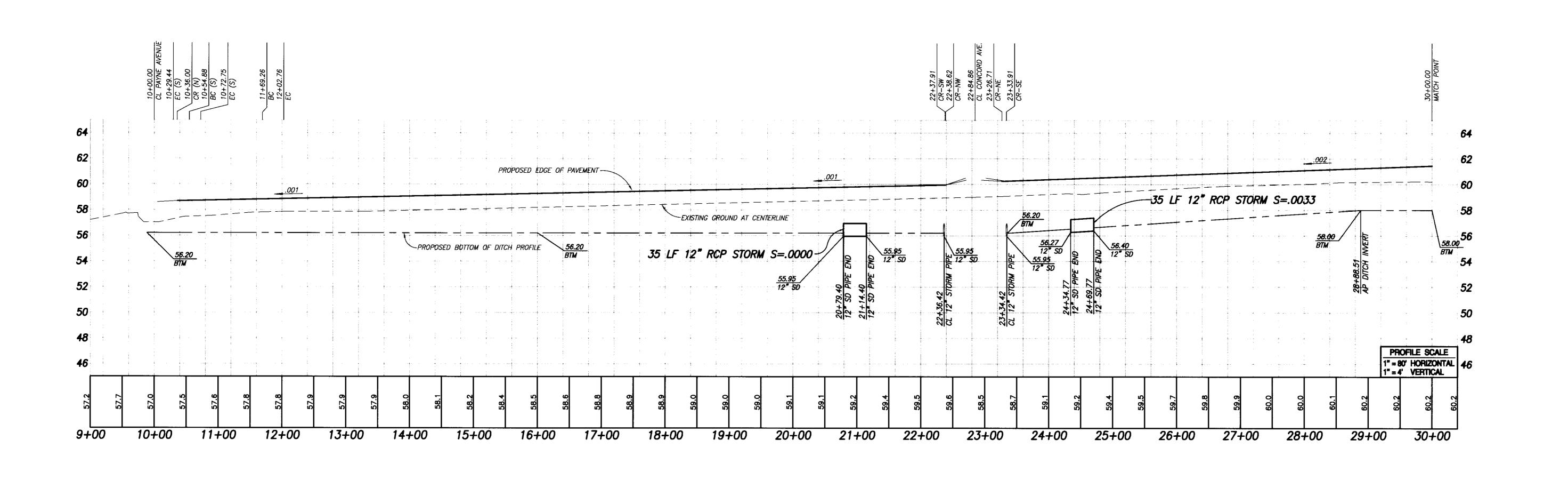
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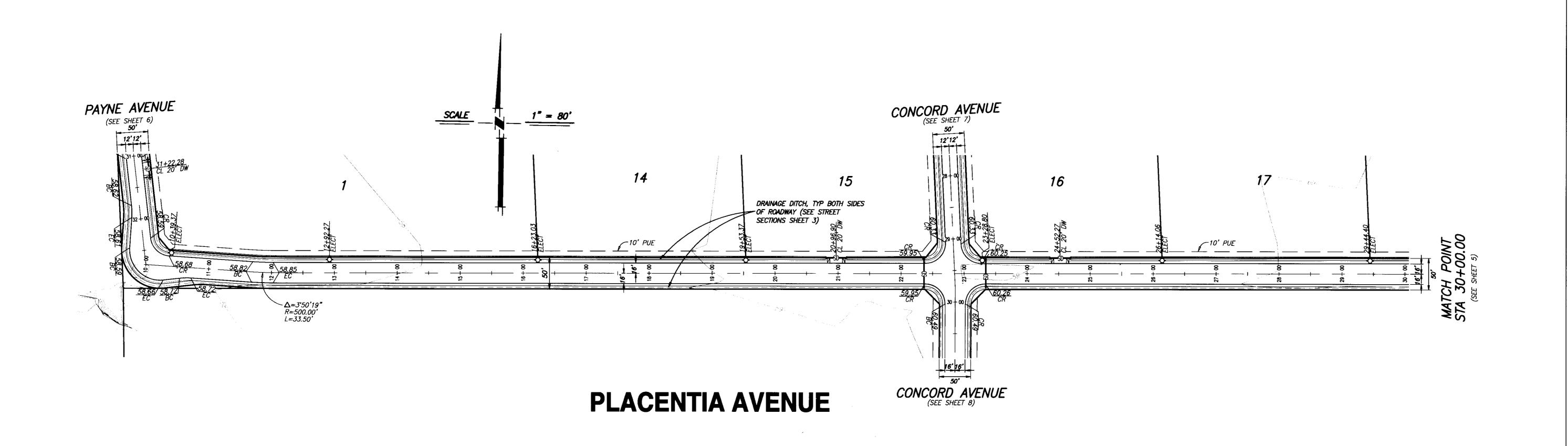
PREPARED UNDER THE DIRECTION OF :

LACENTIA AVENUE STA. 30+00.00 - END) WILDWOOD RANCH

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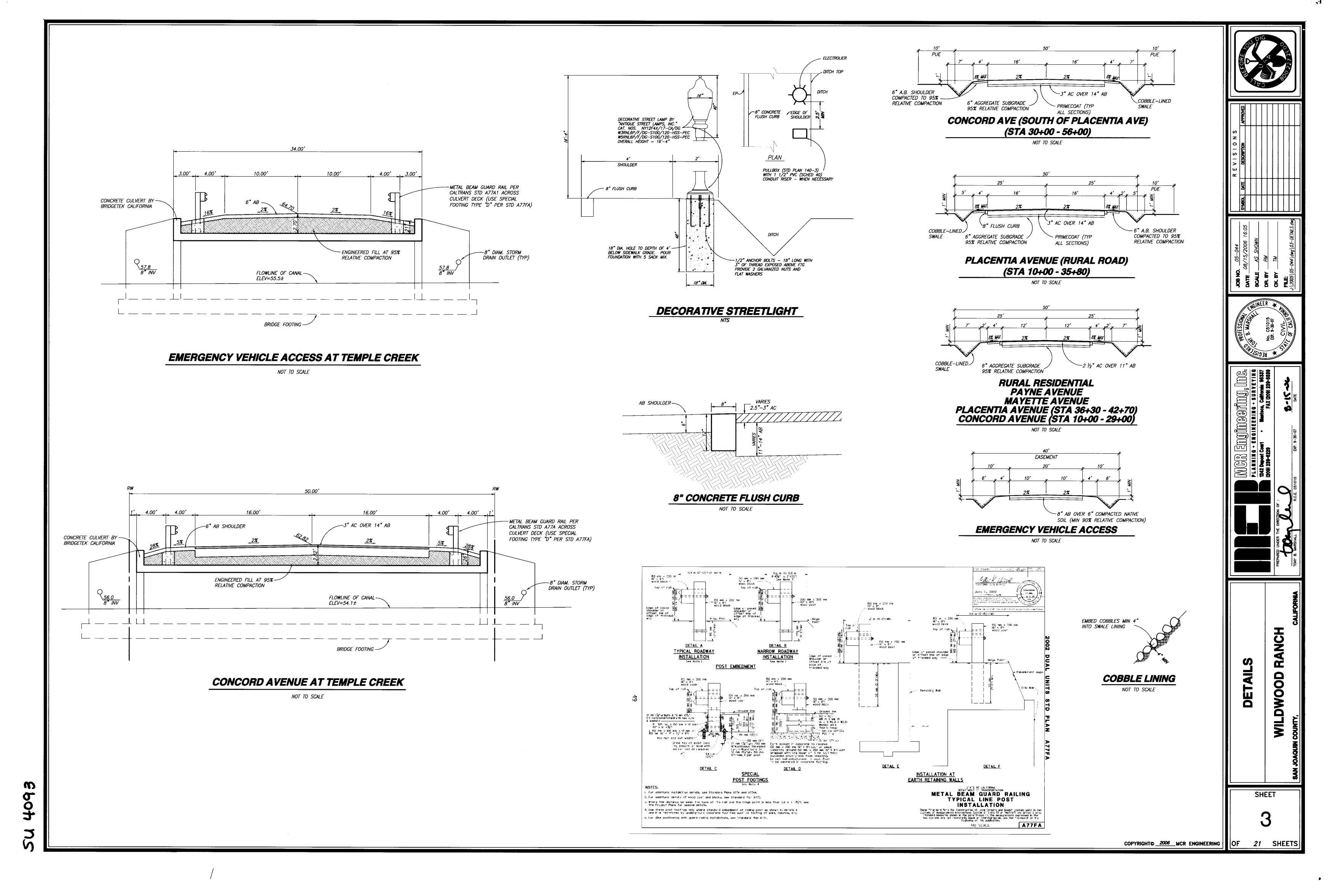
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GENERAL NOTES:

- ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE FOLLOWING: SAN JOAQUIN COUNTY IMPROVEMENT STANDARS. AND ALL AMENDMENTS TO DATE. CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS AND STANDARD PLANS (2002 EDITION), WHERE APPLICABLE. ALL WORK SHALL BE UNDER THE INSPECTION OF SAN JOAQUIN COUNTY DEPARTMENT OF PUBLIC WORKS.
- IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THAT THE WORK BE COMPLETED IN ACCORDANCE WITH THEIR TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES AND AMBIGUITIES WHICH MAY EXIST IN THE PLANS AND SPECIFICATIONS. IF THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FIRST QUALITY ARE TO BE USED.
- CONSTRUCTION STAKING FOR GRADING SHALL BE DONE UNDER THE DIRECTION OF MCR FNGINEERING. THE CONTRACTOR SHALL NOTIFY THE ENGINEER SEVENTY—TWO (72) HOURS IN ADVANCE OF THIS NEED FOR STAKING. ANY STAKING REQUESTED BY THE CONTRACTOR OR HIS SUBCONTRACTORS THAT IS ABOVE AND BEYOND NORMAL STANDARD SUBDIVISION STAKING NEEDS, WILL BE SUBJECT TO AN EXTRA BACK CHARGE TO THE CONTRACTOR.
- THE CONTRACTOR SHALL EXERCISE DUE CAUTION AND SHALL CAREFULLY PRESERVE BENCH MARKS, REFERENCE POINTS AND ALL SURVEY STAKES, AND SHALL BEAR ALL EXPENSE FOR REPLACEMENT AND/OR ERRORS CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, ENGINEER AND THE COUNTY HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- UNLESS OTHERWISE STATED, ALL STATIONS INDICATED ON THE IMPROVEMENT PLANS ARE REFERENCED TO THE CENTERLINE OF THE STREET. ALL STATIONS OFF CENTER ARE PERPENDICULAR TO OR RADIALLY OPPOSITE CENTERLINE STATIONS, UNLESS
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE CIVIL ENGINEER.
- THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG MAN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT ISSUE OF "MANUAL OF TRAFFIC CONTROLS. WARNING SIGNS, LIGHTS AND DEVICES FOR USE IN PERFORMANCE OF WORK UPON HIGHWAY" PUBLISHED BY THE STATE OF CALIFORNIA BUSINESS AND TRANSPORTATION AGENCY.
- THE OFFICE OF THE COUNTY ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY WORK.
- THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FROM THE COUNTY DEPARTMENT OF PUBLIC WORKS OR ANY OTHER APPLICABLE AGENCIES PRIOR TO COMMENCEMENT OF WORK WITHIN EXISTING COUNTY RIGHT—OF—WAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT.
- STREET SIGNS, TRAFFIC CONTROL SIGNS, AND PAVEMENT MARKINGS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AT LOCATIONS ESTABLISHED BY
- 12. ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), THE CALIFORNIAL SUPPLEMENT TO THE MUTCD, AND SAN JOAQUIN COUNTY STANDARDS.
- 13. CONTRACTOR SHALL VERIFY ALL STREET NAMES AND BLOCK NUMBERS PRIOR TO ORDERING SIGNS.
- ASPHALT CONCRETE SHALL BE PLACED ONLY WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50°F.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE REMOVAL OR RELOCATION OF ALL EXISTING UTILITIES WITH RESPECTIVE UTILITY COMPANIES.
- PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE, IN THE FIELD, THEIR MAIN AND SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) 48 HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (800) 642-2444. THE CONTRACTOR SHALL RECORD THE U.S.A. ORDER NUMBER AND FÜRNÍSH ORDER NUMBER TO OWNER PRIOR TO ANY EXCAVATION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. ANY REPAIRS NECESSARY TO DAMAGED UTILITIES SHALL BE PAID FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICE TO THE DEVELOPMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING IMPROVEMENTS FROM DAMAGE. COST OF REPLACING EXISTING IMPROVEMENTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEMS REQUIRING REMOVAL AND REPLACEMENT OF EXISTING IMPROVEMENTS
- WHENEVER PAVEMENT IS BROKEN OR CUT IN THE INSTALLATION OF THE WORK COVERED BY THESE SPECIFICATIONS. THE PAVEMENT SHALL BE REPLACED, AFTER PROPER BACKFIRING. WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE COUNTY ENGINEER.
- 19. PAYMENT FOR PAVEMENT WILL BE MADE ONLY FOR AREAS SHOWN ON THE PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE SPECIFICATIONS, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INDICATED IN THE CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.
- EXCAVATIONS OF 5 FEET OR MORE IN DEPTH WILL REQUIRE AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY. FOR TRENCHES 5 FEET OF MORE IN DEPTH, THE CONTRACTOR SHALL COMPLY WITH SECTION 5-1.02A OF THE CALTRANS STANDARDS, CHAPTER 9 OF THE STATE OF CALIFORNIA LABOR CODE, AND ANY LOCAL CODES OR ORDINANCES.
- WE CALL YOUR ATTENTION TO TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONS SAFETY AND HEALTH ACT OF 1973 AS AMENDED WHICH STATES: (1) PRIOR TO OPENING AN EXCAVATION EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATIONS; I.E. SEWER, WATER, FUEL, ELECTRICAL LINES, ETC., WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING: AND, WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.
- ALL TRENCHES ON MAJOR AND COLLECTOR STREETS AND CROSS TRENCHES ON ALL STREETS SHALL BE PAVED WITH TEMPORARY PAVING THE SAME DAY THE PAVEMENT
- APPROPRIATE DUST CONTROL SHALL BE PROVIDED, AT THE CONTRACTOR'S EXPENSE TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH SECTION 10 OF CALTRANS STANDARD SPECIFICATIONS AND THE REQUIREMENTS OF THE CITY OF
- THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER, PRIOR TO FINAL ACCEPTANCE, RECORD DRAWINGS OF ALL IMPROVEMENTS REPRESENTED BY THE PROJECT PLANS AND SPECIFICATIONS.

25. TO COMPLY WITH THE STATE OF CALIFORNIA'S STATE-WIDE GENERAL NPDES PERMIT. REGULATING DISCHARGES OF STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM SOIL DISTURBANCES OF ONE (1) ACRE OR MORE, A NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY MUST BE FILED AND APPROPRIATE FEE PAID PRIOR TO COMMENCEMENT OF CONSTRUCTION. IN ADDITION, AT THE CONCLUSION OF THE PROJECT A NOTICE OF TERMINATION MUST ALSO BE FILED. SUBMIT THE FEE, NOTICE OF INTENT, AND NOTICE OF TERMINATION TO THE STATE RESOURCES CONTROL BOARD AT THE FOLLOWING ADDRESS.

STATE WATER RESOURCES CONTROL BOARD DIVISION OF WATER QUALITY PO BOX 1977 SACRAMENTO. CA 95812-1977 ATTN: STORM WATER PERMITTING SECTION

- IF YOU HAVE ANY QUESTIONS CALL WATER QUALITY CONTROL ENGINEER, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD AT (916) 255-3028.
- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE STATE WATER RESOURCES CONTROL BOARD (SWPPP) ORDER NO. 99-008, NPDES GENERAL FACILITY ID NO. 5S38S312267. THE CONTRACTOR SHALL IMPLEMENT AND MONITOR A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH THE SWRCB
- 27. A COUNTY STREAM BED ENCROACHMENT PERMIT SHALL BE OBTAINED PRIOR TO STARTING ANY WORK IN TEMPLE CREEK.

GRADING NOTES:

- EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH SAN JOAQUIN COUNTY STANDARDS AND THE SOILS REPORT BY NEIL ANDERSON AND ASSOCIATES. ALL FILL AREAS SHALL BE TESTED AS REQUIRED BY THE COUNTY AND PAID FOR BY THE DEVELOPER.
- EXCESS EARTH GENERATED FROM UNDERGROUND INSTALLATION AND ROADWAY GRADING SHALL BE PLACED AS DIRECTED BY M.C.R. ENGINEERING. EXCESS MATERIAL TAKEN OFF-SITE SHALL BE IN ACCORDANCE W/ SECTION 7-1:13, "DISPOSAL OF MATERIAL OUTSIDE THE HIGHWAY RIGHT-OF-WAY.
- THE CONTRACTOR SHALL REVIEW SITE PRIOR TO BIDDING. ALL VEGETATION AND DELETERIOUS MATERIALS SHALL BE REMOVED FROM THE SITE AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE LUMP SUM CLEARING COST.
- 4. CLEARING AND GRUBBING SHALL CONFORM TO SECTION 16 "CLEARING AND GRUBBING" OF THE CALTRANS STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL PRESERVE ALL STAKES AND POINTS SET FOR LINES, GRADES OR MEASUREMENT OF THE WORK IN THEIR PROPER PLACES UNTIL AUTHORIZED TO REMOVE THEM BY THE ENGINEER. ALL EXPENSES INCURRED IN REPLACING STAKES THAT HAVE BEEN REMOVED WITHOUT PROPER AUTHORITY SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
- ALL EXISTING WELLS AND SEPTIC TANKS SHALL BE REMOVED AND/OR ABANDONED PER THE REQUIREMENTS OF THE SAN JOAQUIN LOCAL HEALTH DISTRICT. THIS WORK SHALL BE INCLUDED IN THE LUMP SUM CLEARING COST.

RAILINGS AND BARRIER NOTES:

CONCRETE NOTES:

RAILINGS AND BARRIERS SHALL CONFORM TO THE

8" FLUSH CURB SHALL CONFORM TO THE REQUIREMENTS

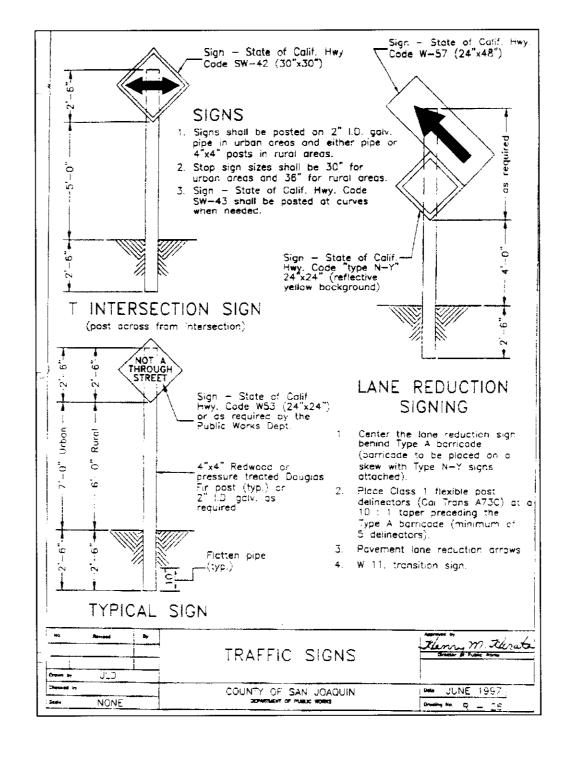
IN SECTION 73, "CONCRETE CURBS AND SIDEWALKS," OF THE STANDARD SPECIFICATIONS.

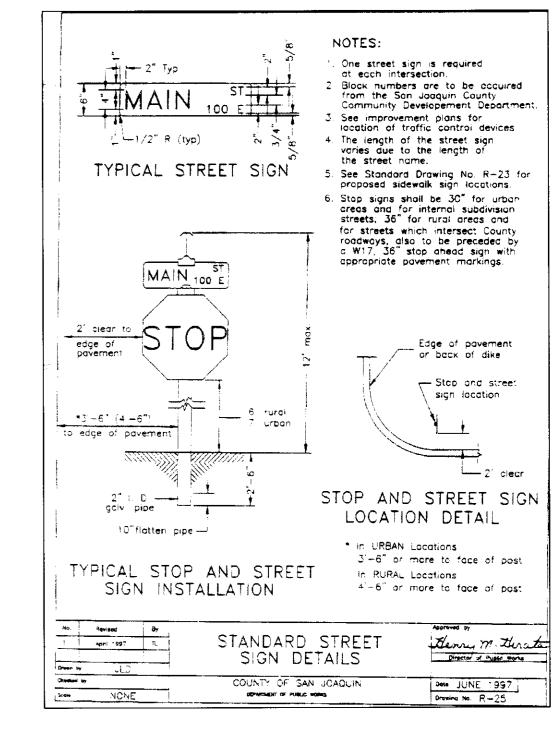
REQUIREMENTS IN SECTION 83. "RAILINGS AND

BARRIERS," OF THE STANDARD SPECIFICATIONS.

LEGEND

DESCRIPTION	SYMBOLS
STORM DRAIN	12*SD
TYPICAL 100W ELECTROLIER	☆
STOP SIGN	<u>R</u> 1
STREET NAME SIGN	s¥s
TYPICAL SIGNAGE (CA SIGN CODES)	-
UTILITY BOX	0
STANDARD DRIVEWAY	И
STOP BAR (ADD REFLECTIVE MARKERS)	<u>R</u>
DIRECTION OF FLOW	.003
TOP OF CURB ELEVATION	\ <u>68.34</u>
ORIGINAL GROUND	N/A
1' CONTOURS	32
CONC RETAINING WALL	•••••
SOUND WALL	
CURB, GUTTER AND SIDEWALK	Teore Core





| Englineering . Inc. | Inc. |

Sec. 10-1, Construction Details Std. Spec. Soc. 26

AGGREGATE BASE.-Aggregate base shall conform to the requirements in Section 26, "Aggregate Bases," of the Standard Specifications and these special

Aggregate Base shall be Class 2. The combined aggregate shall conform to the grading specified for the 3/4-inch

maximum aggregate. The R-Value requirement may be waived provided the individual test result of the aggregate base conforms to the specified grading and durability and has a sand

equivalent value of 33 or more. med asphalt concrete, nortland coment concrete, lean concrete base. cement treated base or a combination of any of these materials may be substituted for Class 2 Aggregate Base, provided it meets the specified gradation and R-Value requirements. Durability and sand equivalent requirements shall be waived.

If the results of the R-Value test on the substituted materials do not meet the requirements for Class 2 Aggregate Base, the aggregate base represented by the failing test shall be removed. However, if requested by the Contractor and approved by the engineer, the substituted materials having an R-Value of 75 through 77 may remain in place and the Contractor shall pay to the County \$2,25 per cubic yard for such aggregate base left in place. The County may deduct this amount from any monies due, or that may become due, the Contractor on this project. No single R-Value test shall represent more than 2000 cubic yards or one day's production.

The results of the R-Value test shall be known prior to placement of subsequent layers of material.

Aggregate Base shall be Class 2. The combined aggregate shall conform to the grading specified for the 3/4-inch maximum aggregate The R-Value requirement may be waived provided the aggregate base conforms to the specified grading and durability and has a sand equivalent value of 33 or more.

AGGREGATE BASE.-Aggregate base shall conform to the requirements

in Section 26, "Aggregate Bases," of the Standard Specifications and these special

Sec. 10-1. Construction Details

Std. Spec. Sec. 26

(\$PECS.CDS:33991-A-P1)

(SPECS CD3:33526 B P1

Sec. 10-1. Construction Details Std. Spec. Sec. 39 Page 3 of 3

Existing pavement markers shall be removed and disposed of, unless otherwise During the removal of ceramic type pavement markers, screens or other rotective devices shall be furnished to contain any fragments as provided for in

by force account to place asphalt concrete

Section 7-1.09. "Public Safety," of the Standard Specifications. Asphalt concrete used for advance leveling, as provided in Section 39-6.02, "Spreading," of the Standard Specifications, when ordered by the Engineer and not shown on the plans, will be paid for at the contract price for asphalt concrete; and also

When apphalt concrete (leveling) is shown on the plans but the contract does not include a contract pay item, asphalt concrete (leveling) will be measured and paid for as asphalt concrete.

Hull compensation for removing pavement markers shall be considered as included in the contract unit price paid for asphalt concrete and no separate payment Sec. 10-1, Construction Details Std. Spec. Sec. 81

MONUMENTS.--Monuments shall conform to the requirements in Section 81, "Monuments," of the Standard Specifications and these special provisions. The Contractor shall place protective monument frames and covers at the locations shown on the plans.

The contract unit price paid for Monument Frame and Cover shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing monument frame and cover, complete in place, including frame and cover, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

SHEET

21 SHEETS

Sec. 10-1, Construction Details

Sec. 10-1. Construction Details

EARTHWORK __Farthwork shall conform to the requirements in Section

All relative compaction requirements of Section 19-5, "Compaction," of the

The requirement of the second paragraph of Section 19-5.03, "Relative

Compaction (95 percent)," of the Standard Specifications, will be required only in those

In tieu of the tolerance specified in Section 19-1 03B, "Grade Tolerance," of

Before grade is approved by the Engineer, all carthwork (including driveways

the Standard Specifications, the surface of the grading plane shall not be more than

and slopes) shall be compacted to grade. Unless otherwise shown on the plans, all

Section 19-2.06, "Surplus Material," of the Standard Specifications, shall become the

property of the Contractor and disposed of as provided in Section 7-1.13, "Disposal of

Unless otherwise shown on the plans, the existing pavement, when used as

Full compensation for breaking up the existing pavement shall be considered as

surplus materials not to be salvaged, stockpiled or disposed of as provided in

Material Outside the Highway Right of Way," of the Standard Specifications.

embankment, shall be broken up into pieces not large: than 0.33 foot in greatest

included in the contract price paid per cubic yard for roadway excavation and no

19, "Earthwork," of the Standard Specifications and these special provisions.

Standard Specifications, shall be not less than 90 percent.

0.05 fool above or below the grade established by the Engineer.

additional compensation will be allowed therefor.

areas shown on the plans

(SPECS.CUS:S\$\$19-A-F1)

Std. Spec. Sec. 19

ASPHALT CONCRETE.—Asphalt Concrete shall conform to the requirements in Section 39, "Asphalt Concrete," of the Standard Specifications and these

Asphalt concrete shall be Type "B". Aggregate shall conform to the 1/2-inch maximum, coarse or medium grading as determined by the Engineer. At the Contractor's option and with approval of the Engineer, aggregate may be 3/4-inch maximum, medium grading with the exception of the final finish course. Aggregate conforming to the 3/8-inch maximum grading will be permitted for use in driveways, dikes and other areas with approval of the Engineer.

A minimum of 2 weeks prior to intended use, the Contractor shall provide to the Resident Engineer proposed aggregate sources, gradations, and aggregate characteristics demonstrating compliance with Section 39 of the Standard Specifications. A mix design performed in accordance with California Test 367 shall be provided for each type and source of material to be used on the project. The proposed gradation shall produce a product meeting the requirements of the Standard Specifications without exceeding 4.5 percent air voids. The exact amount of asphalt binder to be mixed with the aggregate will be determined by the Engineer based on the test results provided. The asphalt binder shall be Grade PG 64 – 10 as specified in Section 92, "Asphalts," of these

When the asphalt concrete is to be produced in a batch plant, the asphalt concrete shall be proportioned and mixed by the automatic method. When shown in the Engineer's Estimate prime coat, liquid asphall penetration grade shall be SC-70 or SC-250 as directed by the Engineer. The placement of asphalt

Paint binder (lack coat) shall be applied at a rate of approximately 0.05 gallon per square yard, unless otherwise shown on the plans

All steel-tired rollers shall be of the tandem type. The third paragraph of Section 39-5.02, "Compacting Equipment," of the Standard Specifications, shall be

The dumping of material in a windrow, in accordance with Section 39-6.01. "General Requirements," of the Standard Specifications, shall be limited to 750 feet in advance of the paving machine, unless otherwise permitted by the Engineer.

(SPECSICOSISSSSS-A-P1

Specifications, shall be amended by deleting the second footnote, which reads, "At the option of the Contractor, one layer 75 mm (0.25-foot) thick may be placed."

The tenth paragraph of Section 39-6.03, "Compacting," of the Standard

asphalt concrete shall be equipped with full automatic screed and grade sensing controls which shall control the longitudinal grade and transverse slope of the screed.

minimum length of the device shall be 30 feet. The device shall be a rigid unit mounted on multiple supports. Each support shall act independently of others and the finished grade shall not be affected by the action of a single support. Alternative longitudinal grade control equipment with grade averaging capability may be used with approval of

grade reference shall be required to control longitudinal grade of the gutter. The gutter shall he water tested before acceptance. The maximum deviation from a true grade shall not result in ponding water for depth exceeding 0.04 foot.

greater than can be completed in the following day of normal surfacing operations. Portable delineators in conformance with Section 12-3.04, "Portable Delineators,"

of the Standard Specifications shall be furnished and placed at a maximum spacing of 300 feet on langents and 100 feet on curves along any edge of new surfacing which has a drop off of more than 0.10 foot. Delineators shall be staggered when required on both

(SPECS.COSISSSSE A P?)

Sec. 10-1. Construction Details Std. Spec. Sec. 39 Alternate A

Sec. 10-1, Construction Details

FARTHWORK (STRUCTURE EXCAVATION & BACKFILL). - Structure

Compaction and Material Requirements: Unless otherwise shown on the plans,

From the hollom of the trench to one-half of the outside diameter of the

From one-half the outside diameter of the pipe to three teet below finish

grade shall be no less than 80 percent relative compaction. Backfill

material shall be selected material from structure excavation. The

90 percent relative compaction. Backfill material shall be selected

Structure Backfill which is outside of the paved portions of the roadway, unless otherwise specified on the plans, shall be native material selected for its resistance to

Full compensation for the quantities of structure excavation and structure backfill

shall be considered as included in the contract price paid for the item for which structure

excavation and structure backtill is performed, and no separate payment will be made

thickness of each layer of backfill within these limits shall not exceed

From three feet below finish grade to the finish grade shall be no less than

he thickness of each layer of backfill within these limits shall not exceed

naterial shall conform to the requirements of Section 19 3.06, "Structure

pipe shall be no less than 95 percent relative compaction. Backfill

oxcavation and backfill shall conform to the requirements in Section 19-3, "Structure

Ponding and jetting will not be permitted.

Backfill," of the Standard Specifications

material from structure excavation.

1.0-foot before compaction

and arches shall be as follows:

(SPECS.ODS/SSS19 C P1)

Excavation and Backfill," of the Standard Specifications and these special provisions.

the compaction and material requirements within the limits of structure backfill for pipes

Std. Spec. Sec. 19

The sixth paragraph in Section 39-6.01, "General Requirements," of the Standard

Specifications, allowing the use of "alternative compacting equipment" shall be deleted. Unless otherwise shown on the plans, asphalt paver equipment used to place

The controls shall be actuated by grade and slope references. Corrections on account of deviations from the references shall be automatic. Guides and references required to control the longitudinal grade and transverse slopes shall be furnished and installed by Should the Contractor elect to use a ski device for longitudinal control, the

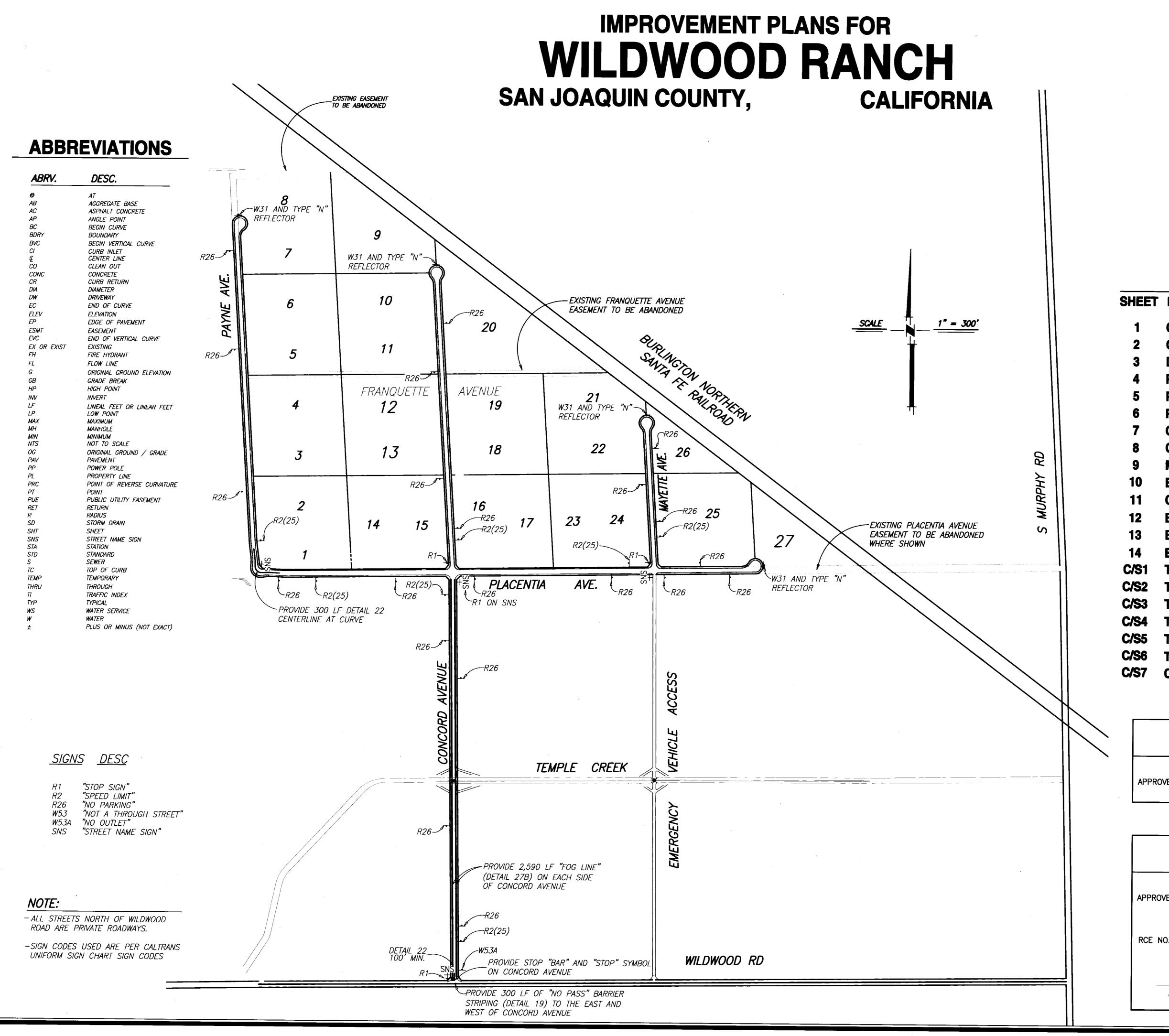
When asphalt concrete gutters are designated on the plans, a stringline or wire

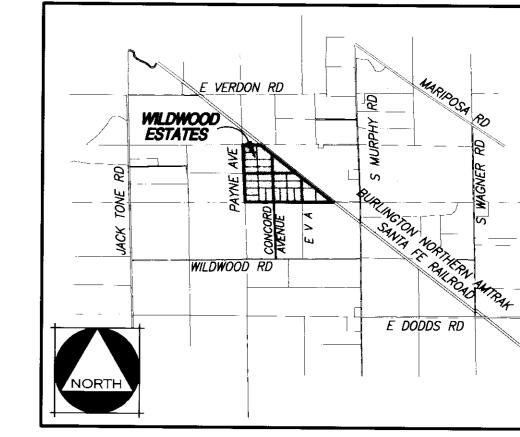
Surfacing operations shall be conducted in such a manner that, at the end of each day's work, the distance between the ends of adjacent surfaced lanes shall not be

(GFECS.CDS/SSSS33-A-P3)

(SPECS.COS/SSS26-A.P.

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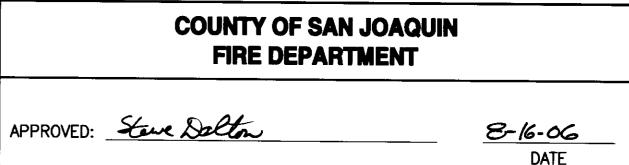


VICINITY MAP

INDEX

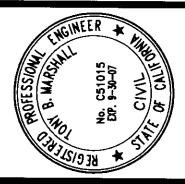
SHEET DESCRIPTION

- **COVER SHEET, STRIPING AND SIGNAGE**
- **GENERAL NOTES AND DETAILS**
- **DETAILS**
- PLACENTIA AVENUE (STA 10+00.00 30+00.00)
- PLACENTIA AVENUE (STA 30+00.00 END)
- **PAYNE AVENUE**
- CONCORD AVENUE (STA 10+00.00 33+50.00)
- CONCORD AVENUE (STA 33+50.00 END)
- MAYETTE AVENUE / EVA (STA 10+00.00 30+00.00)
- EMERGENCY VEHICLE ACCESS (STA 30+00.00 END)
- **CONCORD AVENUE BRIDGE PROFILE**
- **EVA BRIDGE PROFILE**
- **EROSION CONTROL PLAN**
- **EROSION CONTROL DETAILS / NOTES**
- TEMPLE CREEK CULVERT AT CONCORD AVENUE
- TEMPLE CREEK CULVERT AT CONCORD AVENUE
- TEMPLE CREEK CULVERT AT CONCORD AVENUE
- **TEMPLE CREEK CULVERT AT EVA**
- **TEMPLE CREEK CULVERT AT EVA**
- **TEMPLE CREEK CULVERT AT EVA**
- **CULVERT DETAILS**



COUNTY OF SAN JOAQUIN DEPARTMENT OF PUBLIC WORKS		
APPROVED: Sem Selman SENIOR CIVIL ENGINEER	8/17/06 8/16/06 DATE	
46533 RCE NO33033	6/30/07 EXP DATE: G/30/08	
For DIRECTOR OF PUBLIC WORKS COUNTY OF SAN JOAQUIN	<u>8/17/06</u> DATE	

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COVER SHEET, STRIPING AND SIGNA

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SHEET