

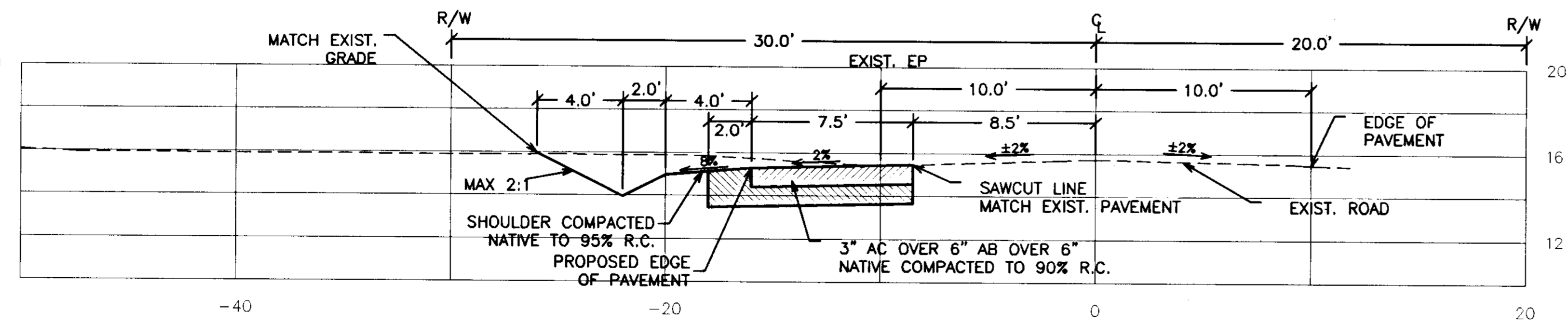
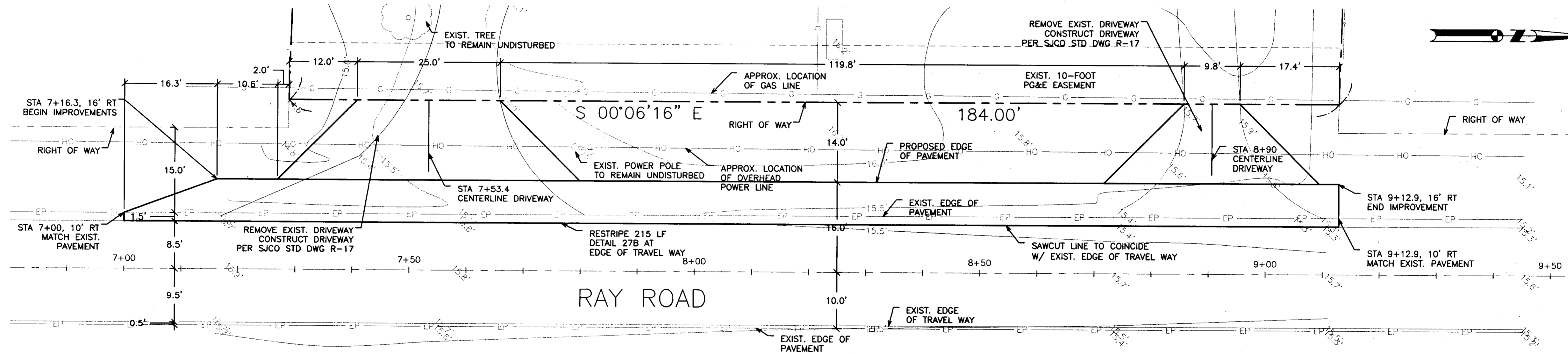
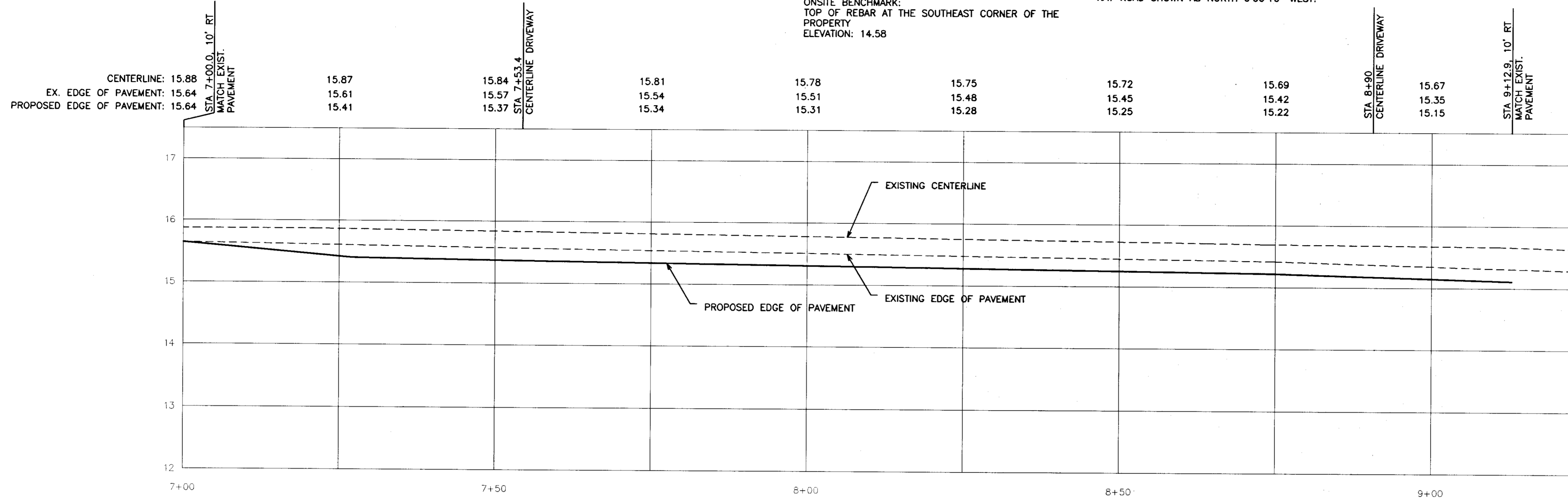
**BENCHMARK DESCRIPTION:**

SAN JOAQUIN COUNTY BENCHMARK Y-9  
ELEVATION: 15.44

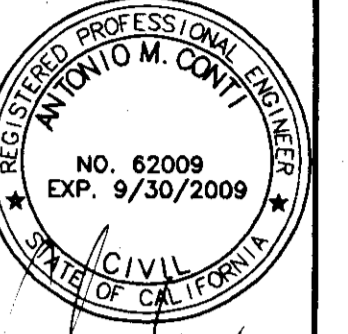
ONSITE BENCHMARK:  
TOP OF REBAR AT THE SOUTHEAST CORNER OF THE  
PROPERTY  
ELEVATION: 14.58

**BASIS OF BEARINGS:**

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CENTERLINE OF  
RAY ROAD SHOWN AS NORTH 0°06'16" WEST.



TYPICAL SECTION  
SCALE 1" = 5'



CONTI & ASSOCIATES, INC.

ENGINEERING SERVICES  
PO Box 1396 Woodridge CA 95258  
209.476.0970 acanti@contia.com

BAGLEY & WORLAND RESIDENCE  
20265 N. RAY ROAD, LODI, CA

FRONTAGE IMPROVEMENTS

APN: 011-170-27

Design  
AMC

Check  
AMC

Date  
01/15/08

Scale  
1" = 10'  
1" = 1'

Original Drawing Scale  
0 1/2" 1"

Sheet Number

3 Of 3

Project File No.  
07-103

SU-4439

**SPECIFICATIONS CONTINUED:**

**SECTION 39 ALTERNATE A ASPHALT CONCRETE** -- ASPHALT CONCRETE SHALL CONFORM TO THE REQUIREMENTS IN SECTION 39, "ASPHALT CONCRETE," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

ASPHALT CONCRETE SHALL BE TYPE "B". AGGREGATE SHALL CONFORM TO THE 1/2-INCH MAXIMUM, COARSE OR MEDIUM GRADING AS DETERMINED BY THE ENGINEER AND DIRECTOR. AT THE CONTRACTOR'S OPTION, AND WITH APPROVAL OF THE ENGINEER AND DIRECTOR, 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 AND DIRECTOR. A MINIMUM OF 2 WEEKS PRIOR TO INTENDED USE, THE CONTRACTOR SHALL PROVED 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 THE 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 TESTS RESULTS PROVIDED. THE ASPHALT BINDER SHALL BE GRADE PG 64-10 AS SPECIFIED IN SECTION 92, "ASPHALTS", OF THESE SPECIAL PROVISIONS.

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 ASPHALT PENETRATION GRADE SHALL BE SC-70 OR SC-250 AS DIRECTED BY THE ENGINEER AND DIRECTOR. THE PLACEMENT OF ASPHALT CONCRETE SHALL NOT BEGIN UNTIL 24 HOURS AFTER THE PRIME COAT IS APPLIED.

PAINT BINDER (TACK 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 DELETED.

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.

THE SIXTH PARAGRAPH IN SECTION 39-6.01, "GENERAL REQUIREMENTS," OF THE STANDARD SPECIFICATIONS, SHALL BE AMENDED BY DELETING THE SECOND FOOTNOTE, WHICH READS, "AT THE OPTION OF THE CONTRACTOR, [0.25" OVERLAY] MAY BE PLACED IN ONE LAYER 0.25" THICK."

THE TENTH PARAGRAPH OF SECTION 39-6.03, "COMPACTING," 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 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. 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 THE CONTRACTOR.

SHOULD THE CONTRACTOR ELECT TO USE A SKI DEVICE FOR LONGITUDINAL CONTROL, THE 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.

WHEN ASPHALT CONCRETE GUTTERS ARE DESIGNATED ON THE PLANS, A STRINGLINE OR WIRE GRADE REFERENCE SHALL BE REQUIRED TO CONTROL LONGITUDINAL GRADE OF THE GUTTER. THE GUTTER SHALL BE WATER TESTED BEFORE ACCEPTANCE. THE MAXIMUM DEVIATION FROM A TRUE GRADE SHALL NOT RESULT IN PONDING WATER FOR DEPTH EXCEEDING 0.04 FOOT.

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 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 TANGENTS 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 SIDES OF TRAFFIC. EXISTING PAVEMENT MARKERS SHALL BE REMOVED AND DISPOSED OF, UNLESS OTHERWISE SHOWN ON THE PLANS.

DURING THE REMOVAL OF CERAMIC TYPE PAVEMENT MARKERS, SCREENS, OR OTHER PROTECTIVE DEVICES SHALL BE FURNISHED TO CONTAIN ANY FRAGMENTS AS PROVIDED FOR IN SECTION 7-1.09, "PUBLIC SAFETY," OF THE STANDARD SPECIFICATIONS.

**SECTION 39 ALTERNATE F LIQUID ASPHALT (PRIME COAT)** -- LIQUID ASPHALT (PRIME COAT) SHALL CONFORM TO THE REQUIREMENTS IN SECTIONS 39, "ASPHALT CONCRETE," AND 93, "LIQUID ASPHALT," OF THE STANDARD SPECIFICATIONS AND THESE SPECIAL PROVISIONS.

LIQUID ASPHALT SHALL BE GRADE SC-70 OR SC-250 AND SHALL BE APPLIED AT THE APPROXIMATE TOTAL RATE OF 0.25 GALLON PER SQUARE YARD IN ONE APPLICATION. THE GRADE AND EXACT RATE OF APPLICATION WILL BE DETERMINED BY THE ENGINEER AND THE DIRECTOR. LIQUID ASPHALT SHALL NOT BE APPLIED WHEN THE ATMOSPHERIC TEMPERATURE IS BELOW 50° F. AT LOCATIONS WHERE PUBLIC TRAFFIC IS BEING ROUTED OVER THE ROADBED TO BE TREATED, THE PRIME COAT SHALL NOT BE APPLIED TO MORE THAN ONE-HALF THE WIDTH OF THE TRAVELED WAY AT A TIME, AND THE REMAINING WIDTH SHALL BE KEPT FREE OF OBSTRUCTIONS AND OPEN FOR USE BY PUBLIC TRAFFIC. LIQUID ASPHALT SHALL NOT BE APPLIED UNTIL A MINIMUM OF 24 HOURS AFTER THE COUNTY HAS ACCEPTED THE AGGREGATE BASE FOR SURFACE TOLERANCES AND COMPACTION REQUIREMENTS.

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(11/05)  
Sec. 10-1 Construction Details  
Std. Spec. Sec 92  
Alternate A  
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**SECTION 92: ASPHALTS**

**92-1.01 DESCRIPTION**

- Asphalt shall consist of refined petroleum or a mixture of refined asphalt and refined solid asphalt, prepared from crude petroleum. Asphalt shall be:
  - Free from residues caused by the artificial distillation of coal, coal tar, or paraffin.
  - Free from water.
  - Homogeneous.

**92-1.02 MATERIALS**

**GENERAL**

- The Contractor shall furnish asphalt under the Department's "Certification Program for Suppliers of Asphalt." The Department maintains the program requirements, procedures, and a list of approved suppliers at:  
<http://www.dot.ca.gov/hq/esc/Translab/fpmcoc.htm>
- The Contractor shall ensure the safe transportation, storage, use, and disposal of asphalt.
- The Contractor shall prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

(SPEC8.CDS65882-A)

(11/05)  
Sec. 10-1 Construction Details  
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**GRADES**

• Performance graded (PG) asphalt binder shall meet the following:

| Property                                       | AASHTO Test Method | Specification |          |          |          |          |
|--|--------------------|---------------|----------|----------|----------|----------|
|  |                    | Grade         |          |          |          |          |
|  |                    | PG 58-22*     | PG 64-10 | PG 64-16 | PG 64-28 | PG 70-10 |
| Original Binder                                |                    |               |          |          |          |          |
| Flash Point, Minimum °C                        | T46                | 230           | 230      | 230      | 230      | 230      |
| Solubility, Minimum % <sup>a</sup>             | T44                | 99            | 99       | 99       | 99       | 99       |
| Viscosity at 135°C, <sup>b</sup> Maximum, Pa.s | T316               | 3.0           | 3.0      | 3.0      | 3.0      | 3.0      |
| Dynamic Shear, Test Temp. at 10 rad/s, °C      | T315               | 58            | 64       | 64       | 64       | 70       |
| Minimum G*/sin(delta), kPa                     |                    | 1.00          | 1.00     | 1.00     | 1.00     | 1.00     |
| RTFO Test, <sup>c</sup> Mass Loss, Maximum, %  | T240               | 1.00          | 1.00     | 1.00     | 1.00     | 1.00     |
| RTFO Test Aged Binder                          |                    |               |          |          |          |          |
| Dynamic Shear, Test Temp. at 10 rad/s, °C      | T315               | 58            | 64       | 64       | 64       | 70       |
| Maximum G*/sin(delta), kPa                     |                    | 2.20          | 2.20     | 2.20     | 2.20     | 2.20     |
| Ductility at 25°C, Minimum, cm                 | T51                | 75            | 75       | 75       | 75       | 75       |
| PAV <sup>d</sup> Aging, Temperature, °C        | R28                | 100           | 100      | 100      | 100      | 110      |
| RTFO Test and PAV Aged Binder                  |                    |               |          |          |          |          |
| Dynamic Shear, Test Temp. at 10 rad/s, °C      | T315               | 22 e          | 31 e     | 28 f     | 22 f     | 34 f     |
| Minimum G*/sin(delta), kPa                     |                    | 5000          | 5000     | 5000     | 5000     | 5000     |
| Creep Stiffness, Test Temperature, °C          | T313               | -12           | 0        | -6       | -18      | 0        |
| Maximum S-value, Mpa                           |                    | 300           | 300      | 300      | 300      | 300      |
| Minimum M-value                                |                    | 0.300         | 0.300    | 0.300    | 0.300    | 0.300    |

Notes:  
 a. For use as asphalt rubber base stock for high mountain and high desert areas.  
 b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by the Department's "Certification Program for Suppliers of Asphalt."  
 c. The Engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.  
 d. The Department will test the sample at 5°C higher if fails at the specified test temperature. G\*/sin(delta) shall remain 5000 kPa minimum.  
 e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T240 or ASTM Designation: D 2872.  
 f. "PAV" means Pressurized Aging Vessel.

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**Performance based asphalt (PBA) binder shall meet the following:**

Performance Based Asphalt Binder

| Property   | AASHTO Test Method | Specification |             |        |        |
|--|--------------------|---------------|-------------|--------|--------|
|  |                    | PBA 6a        | PEA 6a(mod) | PBA 6b | PBA 7  |
| Absolute Viscosity (60°C), Pa.s(10 <sup>3</sup> )  |                    |               |             |        |        |
| Original Binder, Minimum   | T202               | 2000          | 2000        | 2000   | 1100   |
| RTFO Aged Residue, <sup>a</sup> Minimum  |                    | 5000          | 5000        | 5000   | 3000   |
| Kinematic Viscosity (135°C), mPa.s(10 <sup>3</sup> )   |                    |               |             |        |        |
| Original Binder, Maximum   | T201               | 2000          | 2000        | 2000   | 2000   |
| RTFO Aged Residue, <sup>a</sup> Minimum  |                    | 275           | 275         | 275    | 275    |
| Absolute Viscosity Ratio (60°C), Maximum   |                    |               |             |        |        |
| RTFO Test Visc./Orig. Visc.  |                    | 4.0           | 4.0         | 4.0    | 4.0    |
| Flash Point, Cleveland Open Cup, °C, <sup>b</sup> Original Binder, Minimum   |                    |               |             |        |        |
|  | T46                | 232           | 232         | 232    | 232    |
| Mass Loss After RTFO Test, %   | T240               | 0.60          | 0.60        | 0.60   | 0.60   |
| Solubility in Trichloroethylene, % C Original Binder, Minimum  |                    |               |             |        |        |
|  | T44                | Report        | Report      | Report | Report |
| Ductility (25°C, 5 cm/min), cm   |                    |               |             |        |        |
| RTFO Aged Residue, <sup>a</sup> Minimum  | T51                | 60            | 60          | 60     | 75     |
| On RTFO Aged Residue, <sup>a</sup> °C:<br>1 to 10 rad/sec: SSD <sup>d</sup> 0 and Phase Angle (at 1 rad/sec) < 72° |                    |               |             |        |        |
|  |                    | —             | 35          | —      | —      |
| On Residue from PAV <sup>e</sup> at temp., °C  |                    |               |             |        |        |
| Or Residue from T&O <sup>f</sup> (at 113°C), hours   | R28                | 100           | 100         | 100    | 110    |
|  |                    | 36            | 36          | 36     | 72     |
| SSD <sup>d</sup> -115(SSV)-50.6, °C  |                    |               |             |        |        |
|  | g                  | —             | —           | —      | 25     |
| Stiffness, Test Temperature, °C  |                    |               |             |        |        |
| Maximum S-value, MPa   | T313               | -24           | -24         | -30    | -6     |
| Minimum M-value  |                    | 0.300         | 0.300       | 0.300  | 0.300  |

Notes:  
 a. Absolute viscosity (60°C) will be determined at one sec<sup>2</sup> using ASTM Designation: D 4957 with Asphalt Institute vacuum capillary viscometers.  
 b. "RTFO Aged Residue" means the asphaltic residue obtained using the Rolling Thin Film Oven Test (RTFO Test), AASHTO Test Method T240 or ASTM Designation: D 2872.  
 c. There is no requirement; however results of the test shall be part of the certified copy of test results furnished with the Certificate of Compliance.  
 d. Actual results of the test shall be part of the certified copy of test results and if PBA Grade 6a, 6b, or 7 is used, an additional statement verifying an acceptable flash point shall be included with the Certificate of Compliance.  
 e. "Residue from T&O" means the asphalt obtained using California Test 374, Method B, "Method for Determining Asphalt Durability Using the California Hot Oven Durability Test."  
 f. "SSD" means Shear Susceptibility of Delta, "SSV" means Shear Susceptibility of Viscosity.  
 g. California Test 381.  
 h. "PAV" means Pressurized Aging Vessel.

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2. In trucks equipped with a calibrated thermometer that determines the asphalt temperature at the time of delivery and equipped with a vehicle tank meter meeting Section 9-1.01, "Measurement of Quantities," for weighing, measuring, and metering devices.

• If the Contractor furnishes asphalt concrete from a mixing plant producing material for only one project, the Department will determine the amount of asphalt from volumetric measurements by measuring the amount in the tank at the start and the end of the project provided the tank is calibrated and equipped with its measuring stick and calibration card. The Engineer will determine pay quantities under the following:

- Before converting the volume to mass, the Engineer will reduce the volume measured to that which the asphalt would occupy at 15°C.
- The Engineer will use 981 lb/tonne and 1020 g/L for the average weight and volume for both PG and PBA grades of asphalt at 15°C.
- The Engineer will use the Conversion Table in Section 93, "Liquid Asphalts."

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**SAMPLING**

- The Contractor shall provide a sampling device in the asphalt feed line connecting plant storage tanks to the asphalt weighing system or spray bar. The sampling device shall be accessible between 600 mm and 750 mm above the platform. The Contractor shall provide a receptacle for flushing the sampling device.
- The sampling device shall include a valve:
  - With a diameter between 10 mm and 20 mm.
  - Manufactured in a manner that a one-liter sample may be taken slowly at any time during plant operations.
  - Maintained in good condition.
- The Contractor shall replace failed valves.
- In the presence of the Engineer, the Contractor will take 2 one-liter samples per operating day. The Contractor shall provide round, friction top, one-liter containers for storing samples.

**92-1.03 APPLYING ASPHALT**

- Unless otherwise specified, the Contractor shall heat and apply asphalt in conformance with the provisions in Section 93, "Liquid Asphalts."
- The Contractor shall apply paving asphalt at a temperature between 120°C and 190°C. The Engineer will determine the exact temperature of paving asphalt.

**92-1.04 MEASUREMENT**



