ADDENDUM NO. 2
BLAKE STREET AND OTHER ROADS PHASE 2
WORK ORDER: H15177
AREA: SAN BERNARDINO
ROAD NO.: VARIOUS LOCATIONS

~~**BIDS OPEN 10:00 AM, THURSDAY JULY 17, 2025**~~
BIDS OPEN 10:00 AM, THURSDAY JULY 24, 2025

By Email via ePro System

The bid opening will be publicly viewable via goto.com, details are available in the Notice to Bidders pages of the Project Special Provisions.

Amend the Project Special Provision as follows:

1. **NOTICE TO BIDDERS**

   a. On page NB-1, Replace the bid opening date "**10:00 A.M., THURSDAY, JULY 17, 2025**" With:

   10:00 A.M., THURSDAY, JULY 24, 2025

2. **DIVISION I – GENERAL PROVISION**

Delete Section 5-1.36C(1), and **Replace** with:

Add the following paragraphs to section 5-1.36C(1), "General":

Attention is directed to other obstructions as follows:

AGENCY CONTACTS

The following utility/municipal agencies have facilities within the limits of the subject project:

AGENCY	CONTACT	ADDRESS / PHONE / CELL
AT&T Distribution	Floyd Dizon FD8321@att.com	3073 Adams Street Riverside, CA 92504 (714) 618-9126
City of Rialto	Sarai Rios-Carrasco srios@rialtoca.gov	335 W. Rialto Avenue Rialto, CA 92376 (909) 421-4993 ext. 4993
Southern California Gas Company	Kent Tam ktam@socalgas.com	1981 W Lugonia Avenue Redlands, CA 92374 (213) 231-7852
Southern California Edison	SCE Planning Supervisor	7951 Redwood Avenue

		Fontana, CA 92336 (909) 357-6585 **Emergency: (800) 611-1911**
Spectrum	David Anderson David.anderson1@charter.com	7337 Central Avenue Riverside, CA 92504 (951) 634-1584
West Valley Water District	Linda Jadeski ljadeski@wvwd.org	855 W. Base Line Road Rialto, CA 92377 (909) 820-3713 (909) 644-0570 (cell)

The initial written utility notification and preliminary plans were sent to utility agencies on March 9, 2023, and contact has continued at various times since.

UTILITY RELOCATIONS

The following utilities will be relocated:

AGENCY	APPROXIMATE LOCATION	DETAILS
Any Agency	• Throughout Project	• If necessary, Contractor shall provide 2 working day window, per agency, during construction for unforeseen conflicts requiring relocation. Any unused days may be used by another agency, if necessary.

UTILITY PROTECTION

Protection of the following utility facilities will require coordination with the contractor's operations:

AGENCY	APPROXIMATE LOCATION	DETAILS
AT&T Distribution	• Overhead and underground facilities located throughout project limits.	• Contractor to locate and protect in place
City of Rialto	• Sewer lines, manholes, and other appurtenant structures located throughout project limits.	• Contractor to adjust sewer manholes on Woodhill Street and Park Avenue to grade, per City of Rialto Standard No. SS-201-0
Southern California Gas Company	• Gas lines, meters and valve cans located throughout project limits.	• Contractor to locate and protect in place

		• Contractor to adjust valve cans to final grade, if adjustable
Southern California Edison	• Overhead and underground facilities located throughout project limits.	• Contractor to locate and protect in place
Spectrum	• Overhead and underground facilities located throughout project limits.	• Contractor to locate and protect in place
West Valley Water District	• Waterlines, water meters, fire hydrants and other appurtenant structures located throughout project limits.	• Contractor to locate and protect in place • Contractor to adjust valve cans to final grade, if adjustable

HIGH RISK UTILITIES

The following utility facilities are **"HIGH RISK"** facilities:

AGENCY	LOCATION	DESCRIPTION
n/a	• n/a	• n/a

The contractor shall notify all listed utility companies **two weeks** prior to start of work

UTILITY RELOCATIONS

The following utilities will be relocated:

AGENCY	APPROXIMATE LOCATION	DETAILS
Any Agency	• Throughout Project	• If necessary, Contractor shall provide 2 working day window, per agency, during construction for unforeseen conflicts requiring relocation. Any unused days may be used by another agency, if necessary.

UTILITY PROTECTION

Protection of the following utility facilities will require coordination with the Contractor's operations:

AGENCY	APPROXIMATE LOCATION	DETAILS
County of San Bernardino	• Sewer lines and manholes at various locations within project	• Contractor to locate and protect in place.

	limits. • Water facilities at various locations within project limits. • Storm drain lines and manholes at various locations within project limits. • Irrigation lines at various locations within project limits	
Crown Castle	• Underground and Overhead facilities in various locations within the project limits	• Contractor to locate and protect in place
HP Communications	• Underground and Overhead facilities in various locations within the project limits	• Contractor to locate and protect in place
Lumen	• Underground facilities along Cajon Blvd	• Contractor to locate and protect in place
Muscoy Mutual Water	• Underground facilities in various locations in Muscoy	• Contractor to locate and protect in place
San Bernardino Municipal Water District	• Sewer lines and manholes at various locations within the project limits • Water facilities at various locations within the project limits	• Contractor to locate and protect in place
Southern California Edison	• Overhead and underground facilities at various locations within the project limits	• Contractor to locate and protect in place
Southern California Gas	• Underground facilities within the project limits	• Contractor to locate and protect in place
Spectrum	• Overhead and underground facilities at various locations within the project limits	• Contractor to locate and protect in place
Sprint	• Underground facilities along Cajon Blvd, Ogden St, and Macy St	• Contractor to locate and protect in place
Verizon	• Underground facilities within the project limits	• Contractor to locate and protect in place
West Valley Water District	• Underground facilities within the project limits	• Contractor to locate and protect in place

The contractor is to notify Underground Service Alert at 1-800-227-2600, 48 hours prior to any construction operations in order for utilities to mark and identify locations of existing facilities.

Special precaution shall be taken by the Contractor to protect existing utilities that may not be noticeably visible while working in the road shoulder areas.

Throughout the project, utility poles, fire hydrants, water meters, gas meters, water valves and gas valves will be located in the construction area. If applicable, the Contractor shall perform his grading operations around these and construct embankment using pneumatic tampers to achieve the required compaction.

The Contractor shall protect existing manholes in place and costs therefor shall be considered as included in the prices paid for pulverization, milling, removal of existing pavement, etc. No prior arrangements have been made with utility owners to lower, raise, or otherwise adjust existing manholes. It is the Contractor's responsibility to make such arrangements and adjustments, at no additional cost to the Department. Where utility owners do not participate in such arrangements, and finished grade of proposed pavement is above existing manholes, said manholes shall be marked and paved over.

The Contractor shall protect existing valve cans in place and adjust those that are adjustable to finished grade during paving operations. The Contractor shall be solely responsible for coordinating valve can adjustments with utility owners, at no additional cost to the Department. Where valve cans cannot be adjusted, and utility owners do not participate in coordinating adjustments, and finished grade is above existing valve cans, said valve cans shall be marked and paved over.

During construction operations, all County-owned signs shall be relocated to clear the way for the Contractor's operations. When construction is complete, the County-owned signs shall be installed in final position as designated by the Engineer.

Existing guideposts (paddles) that interfere with construction shall be removed and disposed of.

Existing fences shall be removed as shown on the plans. Fences, which are to remain in place, may be temporarily removed and reconstructed where necessary for construction. Where fences are removed, tension shall be maintained in the portions that remain. Removed fences that are not to be reconstructed shall be disposed of.

All existing sprinklers in conflict with construction shall be relocated, removed and/or capped to clear construction.

If required during construction operations, existing mailboxes shall be moved as necessary to clear the way for the Contractor's operations, but at all times shall be accessible for delivery. During construction the mailboxes shall either be installed on posts set in the ground or they may be installed on temporary supports approved by the Engineer.

The space around the posts and post concrete anchors shall be backfilled with suitable earthy material. The backfill material shall be placed in layers approximately 0.33 foot thick and each layer shall be moistened and thoroughly compacted to a relative compaction of not less than 90 percent.

The face of mailbox shall be within 0 to 6 inches from face of curb, asphalt concrete dike or edge of pavement.

Surplus removed materials shall be disposed of outside the highway right-of-way in accordance with Section 14-10, "Solid Waste Disposal and Recycling" of the Standard Specifications. Attention is directed to prevailing wage provisions pertaining to hauling "trash" and/or "recyclable" materials.

The contract unit price paid to remove and cap sprinklers shall be included in the **various contract items of work** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work necessary in relocating the sprinklers, complete in place, and disposing of surplus material and no additional compensation will be allowed therefor.

Full compensation for conforming to the requirements of this section, not otherwise provided for, including furnishing all labor, materials, tools, equipment and incidentals, including utility adjustments to grade, providing utility windows and coordination, and for doing all work involved shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be allowed therefore.

3. DIVISION II – GENERAL CONSTRUCTION

a. **Delete** Section 10-1.29 Asphalt Rubber Binder Chip Seal Coat and **Replace** with:

10-1.29 ASPHALT RUBBER BINDER SEAL COAT

General
Asphalt rubber binder seal coat shall consist of applying Asphalt Rubber Binder followed by Heated Screenings Pre-Coated with asphalt binder followed by a fog seal coat.

Where asphalt rubber binder seal coat is applied as SAMI, fog seal coat is not required.

Asphalt Rubber Binder

Asphalt rubber binder must be a combination of:
1. Asphalt binder.
2. Asphalt modifier.
3. Crumb rubber modifier.

SUBMITTALS

At least 5 business days before use, the Contractor shall submit the permit issued by the local air district for asphalt rubber binder field blending equipment and application equipment. If an air quality permit is not required by the local air district for producing asphalt rubber binder, submit verification from the local air district that an air quality permit is not required.
At least 10 days before starting seal coat activities, the Contractor shall submit the name of an authorized laboratory to perform QC testing for asphalt rubber binder. The authorized laboratory must comply with the Caltrans' Independent Assurance Program.
The Contractor shall submit Safety Data Sheet (SDS) for each Asphalt Rubber Binder ingredient and the asphalt rubber binder.
For each delivery of asphalt rubber binder ingredients and Asphalt Rubber Binder to the job site, the Contractor shall submit a certificate of compliance and a copy of the specified test results.
The Contractor shall submit a certified volume or weight slip for each delivery of Asphalt rubber Binder ingredients and asphalt rubber binder.
On the same day of delivery the material, the Contractor shall submit:

1. Four 1-qt cans of mixed asphalt rubber binder
2. Samples of each asphalt rubber binder ingredient
3. Asphalt rubber binder formulation and data as follows:
    - 3.1. For asphalt binder and asphalt modifier, include:
        - 3.1.1. Source and grade of asphalt binder

3.1.2. Source and type of asphalt modifier
3.1.3. Percentage of asphalt modifier by weight of asphalt binder
3.1.4. Percentage of combined asphalt binder and asphalt modifier by weight of asphalt rubber binder
3.2. Test results for the specified quality characteristics
3.2.1. For crumb rubber modifier, include:
3.2.2. Each source and type of scrap tire crumb rubber and high natural rubber
3.2.3. Percentage of scrap tire crumb rubber and high natural rubber by total weight of asphalt rubber binder
3.3. Test results for the specified quality characteristics
3.3.1. For asphalt rubber binder, include:
3.3.2. Test results for the specified quality characteristics
3.3.3. Minimum reaction time and temperature

The Contractor shall submit a certificate of compliance and accuracy verification of test results for viscometers.
The Contractor shall submit notification 15 minutes before each viscosity test or submit a schedule of testing times.

The Contractor shall submit the log of Asphalt Rubber Binder viscosity test results each day of asphalt rubber binder seal coat work.

The County shall obtain material samples during the application processes, and shall run tests for these collected samples as needed. If the test results fail to meet the required standards, the County shall reject the said work and the Contractor shall remove and replace the placed Asphalt Rubber Binder Seal Coat at the Contractor's own expense.

GENERAL:
Asphalt rubber binder must be 79 ± 1 percent by weight asphalt binder and 21 ± 1 percent by weight of CRM. The minimum percentage of CRM must be 20.0 percent and lower values may not be rounded up.

CRM must be 76 ± 2 percent by weight scrap tire crumb rubber and 24 ± 2 percent by weight high natural crumb rubber.

Asphalt modifier and asphalt binder must be blended at **the production site**. Asphalt modifier must be from 2.5 to 6.0 percent by weight of the asphalt binder in the asphalt rubber binder.

The asphalt rubber binder supplier determines the exact percentage.

If blended, the asphalt binder must be from 375 to 440 degrees F when asphalt modifier is added and the mixture must circulate for at least 20 minutes. Asphalt binder, asphalt modifier, and CRM may be proportioned and combined simultaneously.

The blend of asphalt binder and asphalt modifier must be combined with the CRM at **the asphalt rubber binder production site**. The asphalt binder and asphalt modifier blend must be from 375 to 440 degrees F when the CRM is added. Combined ingredients must be allowed to react at least 45 minutes at temperatures from 375 to 425 degrees F except the temperature must be at least 10 degrees F below the flash point of the asphalt rubber binder.

THE ASPHALT RUBBER BINDER PRODUCTION SITE MUST BE AT THE JOB SITE, AT A DISTANCE OF WITHIN THREE MILES.
THIS REQUIREMENT ALSO APPLIES TO ANY ASPHALT-RUBBER BINDER REHEAT CYCLES, UNLESS OTHERWISE APPROVED BY THE COUNTY.

After reacting, the asphalt rubber binder must comply with the requirements shown in the following table:

Quality characteristic	Test method	Requirement
Cone penetration at 25 °C (0.10 mm)	ASTM D217	25–60
Resilience at 25 °C (% rebound)	ASTM D5329	18–50
Softening point (°C)	ASTM D36/D36M	55–88
Viscosity at 375 °F (Pa•s x 10^{-3})[a]	ASTM D7741/D7741M	1,800–2,500

[a]Prepare sample for viscosity test under California Test 388.

Maintain asphalt rubber binder at a temperature from 375 to 415 degrees F.

Stop heating unused asphalt rubber binder 4 hours after the 45-minute reaction period. Reheating asphalt rubber binder that cools below 375 degrees F is a reheat cycle. Do not exceed 2 reheat cycles. If reheating, asphalt rubber binder must be from 375 to 415 degrees F before use.

During reheating, you may add scrap tire crumb rubber. Scrap tire crumb rubber must not exceed 10 percent by weight of the asphalt rubber binder. Allow added scrap tire crumb rubber to react for at least 45 minutes. Reheated asphalt rubber binder must comply with the specifications for asphalt rubber binder.

Asphalt Binder:
Asphalt binder must comply with the specifications for asphalt binder. Do not modify asphalt binder with polymer.

Asphalt binder for Asphalt Rubber Seal Coat shall be PG 64-16 (unless changed by the Engineer).

The County Representative shall review and approve the plant asphalt binder report, for each phase of the plant production, for the quality assurance.

Asphalt Modifier:
Asphalt modifier must be a resinous, high flash point, and aromatic hydrocarbon. Asphalt modifier must comply with the requirements shown in the following table:

The County Representative shall sample and test the asphalt modifier following the test methods and frequencies shown in the following table, for the quality assurance:

Quality characteristic	Test method	Requirement
Viscosity at 100 °C (m^2/s x 10^{-6})	ASTM D445	X ± 3 [a]

Flash point (CL.O.C., °C)	ASTM D92	207 min
Molecular analysis		
Asphaltenes by mass (max, %)	ASTM D2007	0.1
Aromatics by mass (min, %)	ASTM D2007	55

[a] *X* denotes the proposed asphalt modifier viscosity from 19 to 36. A change in *X* requires a new asphalt rubber binder submittal.

TESTING FREQUENCY FOR ASPHALT MODIFIER:

Quality characteristic	Test method	Frequency
Viscosity	ASTM D445	1 per shipment
Flash point	ASTM D92	
Molecular analysis		
Asphaltenes	ASTM D2007	1 per shipment
Aromatics	ASTM D2007	

Crumb Rubber Modifier:
A combination of ground or granulated high natural crumb rubber and scrap tire crumb rubber.

High Natural Crumb Rubber: Material containing 40 to 48 percent natural rubber.

Scrap Tire Crumb Rubber: Any combination of:
1. Automobile tires.
2. Truck tires.
3. Tire buffing.

CRM must be ground or granulated at ambient temperature.

Scrap tire crumb rubber and high natural crumb rubber must be delivered to the asphalt rubber binder production site in separate bags.

Steel and fiber must be separated. If steel and fiber are cryogenically separated, it must occur before grinding and granulating. Cryogenically-produced CRM particles must be large enough to be ground or granulated.

Wire must not be more than 0.01 percent by weight of CRM when tested under California Test 385. CRM must be free of contaminants except fabric, which must not exceed 0.05 percent by weight of CRM.

The length of an individual CRM particle must not exceed 3/16 inch.

CRM must be dry, free-flowing particles that do not stick together. A maximum of 3 percent calcium carbonate or talc by weight of CRM may be added. CRM must not cause foaming when combined with the asphalt binder and asphalt modifier.

Specific gravity of CRM must be from 1.1 to 1.2 determined under California Test 208. The CRM must comply with the requirements shown in the following table:

		Requirement

Quality characteristic	Test method	Scrap tire crumb rubber	High natural crumb rubber
Acetone extract (%)	ASTM D297	6.0–16.0	4.0–16.0
Rubber hydrocarbon (%)	ASTM D297	42.0–65.0	50.0 min
Natural rubber content (%)	ASTM D297	22.0–39.0	40.0–48.0
Carbon black content (%)	ASTM D297	28.0–38.0	--
Ash content (%)	ASTM D297	8.0 max	--

The County accepts CRM based on the gradation requirements shown in the following table when tested under California Test 385:

Crumb Rubber Modifier Gradation Requirements

Sieve size	Scrap tire crumb rubber		High natural crumb rubber	
	Operating range	Contract compliance	Operating range	Contract compliance
No. 8	100	100	--	--
No. 10	95–100	90–100	100	100
No. 16	35–85	32–88	92–100	85–100
No. 30	2–25	1–30	25–95	20–98
No. 50	0–10	0–15	6–35	2–40
No. 100	0–5	0–10	0–7	0–10
No. 200	0–2	0–5	0–3	0–5

If a test result for CRM gradation does not comply with the specifications, the County deducts the corresponding amount for each gradation test as shown in the following table:

Material	Test result a	Deduction
Scrap tire crumb rubber	Operating range < TR < Contract compliance	$250
Scrap tire crumb rubber	TR > Contract compliance	$1,100
High natural crumb rubber	Operating range < TR < Contract compliance	$250
High natural crumb rubber	TR > Contract compliance	$600

[a] Test Result = TR

Each gradation test for scrap tire crumb rubber represents 10,000 lbs or the quantity used in that day's production, whichever is less.

Each gradation test for high natural crumb rubber represents 3,400 lbs or the quantity used in that day's production, whichever is less.

When tested under California Test 385, scrap tire crumb rubber must comply with the gradation requirements shown in the following table:

Scrap Tire Crumb Rubber Gradation
Percentage passing

Sieve size	Gradation limit	Operating range	Contract compliance
No. 8	100	100	100
No. 10	98–100	95–100	90–100
No. 16	45–75	35–85	32–88
No. 30	2–20	2–25	1–30
No. 50	0–6	0–10	0–15
No. 100	0–2	0–5	0–10
No. 200	0	0–2	0–5

When tested under California Test 385, high natural crumb rubber must comply with the gradation requirements shown in the following table:

High Natural Crumb Rubber Gradation
Percentage passing

Sieve size	Gradation limit	Operating range	Contract compliance
No. 10	100	100	100
No. 16	95–100	92–100	85–100
No. 30	35–85	25–95	20–98
No. 50	10–30	6–35	2–40
No. 100	0–4	0–7	0–10
No. 200	0–1	0–3	0–5

QUALITY CONTROL FOR CRUMB RUBBER MODIFIER:

Sample and test scrap tire CRM and high natural CRM separately. Test CRM under the test methods and frequencies shown in the following table. The Engineer reserves the right to sample and test the scrap tire CRM and high natural CRM separately. If the Engineer does and sample and test the CRM, it will be tested under the test methods and frequencies shown in the following table:

The County Representative shall review and approve the plant Crumb Rubber Modifier report, for each phase of the plant production, for the quality assurance

Crumb Rubber Modifier

Quality characteristic	Test method	Frequency
Scrap tire crumb rubber gradation	California Test 385	1 per 10,000 lbs or 1 per project, whichever is greater

High natural crumb rubber gradation	California Test 385	1 per 3,400 Ibs or 1 per project, whichever is greater
Wire in CRM	California Test 385	1 per 10,000 lb
Fabric in CRM	California Test 385	
CRM particle length	--	
CRM specific gravity	California Test 208	
Natural rubber content in high natural crumb rubber	ASTM D297	1 per 3,400 lb

Asphalt Rubber Binder:
For County acceptance testing, the contractor shall take a sample of asphalt rubber binder in the Engineer's presence every lot or once a day, whichever is greater. Each sample must be in a 6 qt can with open top and friction lid, and runs the required below quality tests:

The County accepts asphalt rubber binder based on compliance with the requirements shown in the following table:

Quality characteristic	Test method	Requirement
Cone penetration at 25 °C (0.10 mm)	ASTM D217	25–60
Resilience at 25 °C (% rebound)	ASTM D5329	18–50
Softening point (°C)	ASTM D36/D36M	55–88
Viscosity at 375 °F (Pa•s x 10-3)a	ASTM D7741/D7741M	1,800–2,500

[a]Prepare sample for viscosity test under California Test 388.

In case of using Asphalt Rubber Binder Seal Coat as a top surface at extreme high temperature areas apply the following table:

Quality characteristic	Test method	Requirement
Cone penetration at 25 °C (0.10 mm)	ASTM D217	25–60
Resilience at 25 °C (% rebound)	ASTM D5329	35–50
Softening point (°C)	ASTM D36/D36M	70–88
Viscosity at 375 °F (Pa•s x 10-3)a	ASTM D7741/D7741M	1,800–2,500

[a]Prepare sample for viscosity test under California Test 388.

Asphalt Rubber Binder Quality Control:

Test asphalt rubber binder under the test methods and frequencies shown in the following table:

Quality characteristic	Test method	Sampling location	Frequency
Descending viscositya	ASTM D7741/D7741M	Reaction vessel	1 per lot[b]
Viscosity at 375 °F	ASTM D7741/D7741M	Distribution truck	15 minutes before use per lot[b]
Cone penetration	ASTM D217	Distribution truck	1 per lot[b]
Resilience	ASTM D5329		
Softening point	ASTM D36/D36M		

[a]Start taking viscosity readings at least 45 minutes after adding crumb rubber modifier and continue taking viscosity readings every 30 minutes until 2 consecutive descending viscosity readings have been obtained and the final viscosity complies with the specification requirement.

Descending Viscosity Reading: Subsequent viscosity reading at least 5 percent lower than the previous viscosity reading.

[b]The lot is defined in the Caltrans' *MPQP*.

Retain the sample from each lot. Test for cone penetration, resilience, and softening point for the first 3 lots and if all 3 lots pass, the testing frequency may be reduced to once for every 3 lots.

Pre-coated Screenings
The County accepts pre-coated screenings based on compliance with the requirements shown in the following table:

The County Representative shall sample and test the aggregate before coating at least once a week or where there is a change in the source, for the quality assurance:

Pre-coated Screenings Acceptance Criteria

Quality characteristic	Test method	Requirement	
Los Angeles Rattler Loss (max, %) Loss at 100 revolutions Loss at 500 revolutions	California Test 211	 10 40	
Film stripping (max, %)	California Test 302	25	
Cleanness value (min)	California Test 227	80	
Durability (min)	California Test 229	52	
Crushed Particles (min.)	205	90%	
Gradation (% passing by weight) Sieve size:	California Test 202	Max ½”	Medium 3/8”
3/4"		100	100
1/2"		85-90	95-100
3/8"		0-30	70–85
No. 4		0-5	0–15[a]
No. 8		-	0–5

No. 200		0-1	0–1

[a] Lower percentages are desirable

Visual inspection is required to evaluate screenings to determine material acceptance. The screenings must be crushed rocks and/or angular gravel particles. Round aggregate and non-uniform size are not acceptable

Screenings
Before pre-coating with asphalt binder, screenings for Asphalt Rubber Binder Seal Coat must comply with the gradation requirements shown in the following table:

Asphalt Rubber Binder Seal Coat Screenings Gradation

	Percentage passing by weight	
Sieve size	½" Max	Medium 3/8"
3/4"	100	100
1/2"	85-90	95-100
3/8"	0-30	70–85
No. 4	0-5	0–15[a]
No. 8	-	0–5
No. 200	0-1	0–1

[a] Lower percentages are desirable

Screenings for Asphalt Rubber Binder Seal Coat shall be **½" Max., or 3/8" Medium.**

Pavement Management will determine the screenings size based on the scope of the project.

Pre-coating Screenings
Pre-coating of screenings must be performed at a central mixing plant. The plant must be authorized under the Caltrans' Material Plant Quality Program.

For asphalt rubber binder seal coat, do not recombine fine materials collected in dust control systems except cyclone collectors or knock-out boxes with any other aggregate used in the production of screenings.

For Asphalt Rubber Binder Seal Coat, screenings must be preheated from 260 to 325 degrees F. Coat with any of the asphalts specified in the table titled "Performance Graded Asphalt Binders" in Section 92-1.02B. The asphalt must be from 0.7 to 1.0 percent by weight of dry screenings.
The Engineer determines the exact rate.

Do not stockpile preheated or pre-coated screenings.

CONSTRUCTION
General
The equipment used in producing asphalt rubber binder and the equipment used in spreading asphalt rubber binder must be permitted for use by the local air district.

Equipment

Asphalt rubber binder blending equipment must be authorized under the Caltrans' Material Plant Quality Program.

The blending equipment must allow the determination of weight percentages of each asphalt rubber binder ingredient.

Self-propelled distributor truck for applying asphalt rubber binder must have the following features:

1. Heating unit
2. Internal mixing unit
3. Pumps that spray asphalt rubber binder within 0.05 gal/sq yd of the specified rate
4. Fully circulating spray bar that applies asphalt rubber binder uniformly
5. Tachometer
6. Pressure gauges
7. Volume measuring devices
8. Thermometer
9. Observation platform on the rear of the truck for an observer on the platform to see the nozzles and unplug them if needed

Asphalt Rubber Binder Application
Apply asphalt rubber binder immediately after the reaction period. At the time of application, the temperature of asphalt rubber binder must be from 385 to 415 degrees F.

Apply asphalt rubber binder at a rate from 0.55 to 0.65 gal/sq yd. The Engineer determines the exact rate. You may reduce the application rate by 0.050 gal/sq yd in the wheel paths.

Apply asphalt rubber binder when the ambient temperature is from 60 to 105 degrees F and the pavement surface temperature is at least 55 degrees F. The Contractor may be granted additional working days, but there will be no additional compensation for weather-related delays or scheduling delays. The Contractor is expected to have accounted for potential weather-related delays and scheduling delays in his or her bid.

Do not apply asphalt rubber binder unless enough screenings are available at the job site to cover the asphalt rubber binder within 2 minutes. Intersections, turn lanes, gore points, cul-de-sacs, knuckles, and irregular areas must be covered within 15 minutes.

Do not apply asphalt rubber binder when pavement is damp or during high wind conditions. If authorized, you may adjust the distributor bar height and distribution speed and use shielding equipment during high wind conditions.

Screenings Application
During transit, cover pre-coated screenings for Asphalt Rubber Binder Seal Coat with tarpaulins if the ambient air temperature is below 65 degrees F or the haul time exceeds 30 minutes.

At the time of application, screenings for Asphalt Rubber Binder Seal Coat must be from 260 to 325 degrees F.

Spread screenings at a rate from 28 to 40 lb/sq yd. The exact rate is determined by the Engineer. Spread to within 10 percent of the determined rate.

Rolling and Sweeping
Perform initial rolling within 90 seconds of spreading screenings. Do not spread screenings more than 200 feet ahead of the initial rolling.
For final rolling, a steel-wheeled roller weighing from 8 to 10 tons in static mode shall be used.

Perform a final sweeping before Contract acceptance. The final sweeping must not dislodge screenings.

Final rolling and sweeping are not required for the Stress Absorbing membrane Interlayer (SAMI). Where asphalt rubber binder seal coat is applied as SAMI, fog seal coat is not required.

MEASUREMENT AND PAYMENT
The contract price paid per square yard for **Asphalt Rubber Binder Seal Coat (3/8" Medium, As Interlayer SAMI PG 64-16)** shall include full compensation for furnishing all labor, materials (including paving asphalt for pre-coating screenings and Asphalt Rubber Binder), tools, equipment, and incidentals and for doing all the work involved in furnishing and applying screenings, complete in place, including preparation preheating and pre-coating screenings and for doing all the work involved in applying asphalt rubber binder complete in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various items of work and no additional compensation will be allowed therefore. The Contractor may be granted additional working days, but there will be no additional compensation for weather-related delays or scheduling delays. The Contractor is expected to have accounted for potential weather- related delays and scheduling delays in his or her bid.

b. **Add** Section 10-1.38 Micro-Mill Asphalt Concrete Pavement:

10-1.38 - MICRO-MILL ASPHALT CONCRETE PAVEMENT
This work shall consist of micro milling existing asphalt concrete pavement at the locations and to the dimension indicated on the plans and shall conform to these Special Provisions, Standards Specifications, and as directed by the Engineer.

GENERAL

Micro-milling shall consist of the cold milling of existing asphalt concrete pavement with a milling machine equipped with a cutting drum specifically designed and constructed for micro-milling.

MILLING MACHINES

Milling machines shall conform to the following:

a) Be equipped with a micro-milling drum with tungsten-carbide-tipped cutting teeth spaced no greater than 1/4 inch apart on center. The configuration of the teeth shall be such that the deviation in elevation between any 2 teeth does not exceed 1/16 inch.

b) Asphalt concrete pavement to a tolerance of + 1/8 inch.

c) Be equipped with an automatic grade control system operating in "profile" mode. The system shall be either:

   I. a 30-foot-long paving machine ski with spring-loaded feet attached to the bottom on not more than 1.5-foot increments, such that the feet rise and fall over small irregularities on the pavement surface. The upper part of the ski shall be one piece and of such construction that it will not flex or bend by more than 1/8 inch at either end when supported off the grade by a fixture located at its center of gravity. The grade control system shall be referenced off the center of the ski, with skis mounted on each side of the milling machine such that the ski's longitudinal center is even with the center of the milling machine's cutting drum; or,

   II. a sonic averaging system with automated controls. Each corner of the the milling machine shall be equipped with sonic grade averaging and slope sensors. The system shall feature plug-in connections, internal cable routing, capable of controlling each side of the milling machine, and a separate control box for the operator.

d) Be equipped with a Tier V or higher engine compliant with the regulations of the California Air Resources Board.

e) The Contractor shall meet the above-stipulated requirements for micro-milling machines prior to commencing construction and seek approval by the Engineer.

MILLING OPERATIONS

Milling operations shall progress from the low side of each roadway barrel or lane and progress towards the high side. Each successive pass of the milling machine shall meet the line and grade of the previous pass. The speed of the milling machine shall be maintained at a rate which results in a uniform pavement texture.

Micro-milling shall result in a grid-patterned textured pavement surface with longitudinal ridges approximately the same distance apart as the cutting teeth. The ridges shall be consistent in depth, width, and profile. The distance between the top of each ridge and the adjacent valleys shall not exceed 1/8 inch.

The resulting profile and cross slope of the milled pavement surface shall be such that a 12-foot long straightedge laid perpendicular or parallel to the centerline will not allow a shim with a width of 1 inch and a thickness of 3/16 inch to pass under the straightedge at any point except at breaks in profile grade or cross slope.

Milled pavement surfaces which do not conform to the requirements above shall be corrected by the Contractor. The Contractor shall prepare and submit to the Engineer for approval a correction plan prior to initiating corrective action.

During milling operations, the cutter teeth shall be regularly checked and replaced as necessary to maintain the tolerances as specified above.

WORK SITE MAINTENANCE

A self-loading motorized street sweeper equipped with both brooms and a vacuum system, and a functional water spray system shall immediately follow the milling machine. Sweeping shall continue until loose millings have been completely removed and as requested by the Engineer. The Contractor shall maintain the micro-milled surface until the surface treatment is applied.

DISPOSAL OF MILLINGS.

Millings shall be considered the property of the Contractor and shall be disposed of by the Contractor. The Contractor shall notify the Engineer a minimum of 2 Working Days prior to the start of milling operations of the disposal location.
Before commencing subsequent restoration or paving operations, the micro-milled material, loose material from the roadway surface, including material deposited in existing or improved gutters or on the adjacent traveled way, shall be removed and disposed of outside the highway right of way in accordance with the provisions in section 14-10, "Solid Waste Disposal and Recycling" and section 14-11, "Hazardous Waste and Contamination" of the Standard Specifications.

MEASUREMENT AND PAYMENT

Micro milling asphalt concrete will be measured by the square yard. The quantity to be paid for will be the actual area of surface cold planed irrespective of the number of passes required to obtain the specified depth of cut. Low areas in existing pavement, bridged by the cold planer when adjacent cuts meet the specified minimum depth, will not be deducted from the measured areas.

The contract unit price paid per square yard for **Micro-Milling 0.08'** shall include full compensation for furnishing all labor, materials including asphalt concrete for temporary transitions, tools, equipment and incidentals, and for doing all the work involved in micro milling and disposing of micro milling material; and constructing, maintaining, removing and disposing of temporary transitions, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

c. **Add** Section 10-1.39 Chip Seal:

10-1.39 CHIP SEAL

Asphaltic emulsion (chip seal) shall be anionic type polymer modified asphaltic emulsion Grade PMRS-2h. Type of polymer modified asphaltic emulsion shall be determined by use of California Test Method 302, "Standard Method of Test for Film Stripping" and ASTM Designation D 3625, "Standard Test Method for Effect of Water on Bituminous-Coated Aggregate Using Boiling Water." Film stripping shall not exceed 10% maximum for determining compatibility to anionic or cationic emulsions.

Due to field conditions or performance of the finished project, modifications to the polymer modified asphaltic emulsion may be necessary. Modifications will be within the ranges specified in these Special Provisions, and shall be performed as directed by the County and at no additional cost to the County. The Vendor shall not modify the polymer modified asphaltic emulsion without prior written approval of the County.

Anionic type polymer modified asphaltic emulsion Grade PMRS-2h shall conform to the following requirements when tested in accordance with the specified test methods:

TEST	Test Method	Requirement	
Test on Emulsions:		**Min.**	**Max.**
Viscosity SSF @ 122ºF, sec	AASHTO T 59	130	280
Settlement, 5 days, %	AASHTO T 59		5

Storage Stability, 1 day %	AASHTO T 59		1
Sieve Test, %	AASHTO T 59		0.30
Demulsibility, 35 ml 0.02 N CaCl2, %	AASHTO T 59	70	95
Ash Content, %	ASTM D 3723		0.2
Residue by Evaporation, %	CT 331	65	

Test on Residue from Evaporation Using <u>California Test Method 331:</u>		**<u>Min.</u>**	**<u>Max.</u>**
Penetration, 77ºF, 100 gm for 5 seconds, dmm	ASSHTO T 49	40	65
Ductility @ 77ºF, cm RTFO Aged Residue	ASSHTO T 51	40	
Tortional Recovery, %	CT 332	25	
Minimum Viscosity @ 140ºF, poise RTFO Aged Residue	AASHTO T 202	5,000	
Ring & Ball Softening Point, ºF	AASHTO T 53	126	

The polymer used in the manufacture of polymer modified asphaltic emulsion shall be, at the option of the Vendor, either Neoprene, UltraPave, or a blend of styrene butadiene rubber (SBR) 2.5% latex.

The liquid rubber latex polymer shall be “co-milled” into the emulsion through the water phase at the time of manufacturing. The Vendor may be required to furnish a Certificate of Compliance with each load of polymer modified asphaltic emulsion delivered to the project which guarantees the above mentioned “co-milling” process was used and the type of polymer used.

Polymer modified asphaltic emulsion may be substituted for the specified bituminous binder for the purpose of installing a test section with the prior written approval of the engineer. The test section quantity used will be as specified by the engineer and the cost therefore will not exceed the unit bid price for asphaltic emulsion, rubber latex.

CHIP SEAL SCREENINGS

Screenings shall conform to the following requirements prior to depositing on the roadbed.

Screenings shall consist of broken stone, crushed gravel, or both. At least 90 percent by weight of the screenings shall consist of crushed particles as determined by California Test 205.

Screenings shall be clean and free from dirt and other deleterious substances.

The percentage composition by weight of screenings shall conform to one of the following gradings:

Percentage Passing

SIEVE SIZES	MEDIUM 3/8" x No. 6	MEDIUM FINE 5/16" x No. 8
¾"….	-	-
½"……	100	-
3/8"……..	85-100	100
No. 4….	0-15	0-50
No. 8….	0-5	0-15
No. 16.	-	0-5
No. 30….	-	0-3
No. 200…	0-2	0-2

Screenings shall also conform to the following quality requirements:

Tests	*California Tests*	*Requirements*
Los Angeles Rattler Loss at 100 Rev. (max.)	211	10%
Los Angeles Rattler Loss at 500 Rev. (max.)	211	40%
Film Stripping (max.)	302	25%
Cleanness Value (min.)	227	86
Crushed Particles (min.)	205	90%

Visual inspection is required to evaluate the crushed rocks to determine material acceptance.

The screenings must be crushed rocks and/or angular gravel particles. Round chips and non-uniform size are not accepted.

It should be Uniformly Graded Aggregate.

If the results of the aggregate grading for screenings do not meet the gradation specified, the seal coat represented by such test shall be removed. However, if requested in writing by the Contractor and approved by the Engineer, the seal coat may remain in place and the Contractor shall pay to the County $1.75 per ton for such screenings left in place.

If the results of the Cleanness Value test for screenings are below 80, the seal coat represented by such test shall be removed. However, if requested in writing by the Contractor and approved by the Engineer, seal coat containing screenings with a Cleanness Value below

80, but not less than 75, may remain in place. The Contractor shall pay to the County the following amount for such screenings left in place.

Cleanness Value	*Payment to County*
86 or over	None
81-85	$2.20 per ton
77-80	$4.40 per ton
75-76	$6.60 per ton

When both the aggregate grading and the Cleanness Value for screenings do not conform to the requirements specified, both payments to the County shall apply.

No single aggregate grading or Cleanness Value test shall represent more than 300 tons or one day's production, whichever is smaller.

Samples for the aggregate grading and Cleanness Value tests will be taken from the conveyor belt of the spreader prior to application.

A test for polymer asphaltic emulsion represents the smaller of 55 tons or 1 day's production.

A test for the screenings gradation or cleanness value represents the smaller of 300 tons or 1 day's production.

Apply polymer asphaltic emulsion when the ambient air temperature is from 60 to 105 degrees F and the pavement surface temperature is at least 55 degrees F.

Do not apply polymer asphaltic emulsion when weather forecasts predict the ambient air temperature will fall below 39 degrees F within 24 hours after application.

Polymer Asphaltic Emulsion Application Rates

Application rate shall be between 0.25 to 0.40 gal/sq yd

Screening Spread Rates

Application rate shall be between 0.20 to 0.30 lb/sq yd

The Engineer determines the exact application rate. Spread screenings within 10 percent of the rate determined by the Engineer.

d. **Delete** Section 10-1.35 RESET ROADSIDE SIGN **Replace** with:

10-1.35 RESET ROADSIDE SIGN

This work, Reset Roadside Signs, shall consist of the relocation of existing roadside signs to maintain communication to public traffic that has existed prior to new construction, and replacement of components of signing facilities consistent with this intent, and shall conform to the provisions of Section 15, "Existing Facilities," Section 82-3, "Roadside Signs," and Section 82-9, "Existing Roadside Signs and Markers," of the Standard Specifications and these Special Provisions.

Relocated signs shall be installed in accordance with the horizontal and vertical dimensions specified on CA MUTCD 2014, Fig 2A-2 (CA) and County Standard Plan, 303b and shall be reset on the same day as removal.

Existing wood posts shall, upon being reset, have two holes drilled, as designated by the Engineer, to create a "breakaway" feature.

The intent is that signs will be relocated as units, including posts and hardware. Should the posts, hardware, or sign panels be determined, by the Engineer, to be unsuitable the following shall apply:

1. Sign panels will be furnished by the County and installed by the Contractor at no additional cost to the County.

2. Hardware, such as back braces, nuts and bolts, etc. shall be furnished by the Contractor, as incidental to the proposed relocation and no additional payment will be made therefor.

3. If existing posts are determined, by the Engineer, to be unusable; new posts meeting the Engineer's specifications shall be furnished and installed by the Contractor. Compensation for new posts will be included in the payment for **Reset Roadside Sign**.

4. Installation of new sign panels (County furnished) onto existing posts or old sign panels onto new posts shall be considered as incidental to the preservation of public safety and convenience, and no payment beyond that calculated by the Engineer for **Reset Roadside Sign** will be made therefor.

The Engineer will determine final location for roadside signs. Any interim, or temporary, positioning of signs necessary to conduct construction without exposing the public to danger or liability, shall be considered to be incidental to the Contractor's operations, and will not be separately compensated.

The contract **unit price** paid for **Reset Roadside Sign** shall include, subject to the aforesaid exceptions, furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work to relocate existing roadside signs (including but not limited to – stop signs, street name signs, regulatory signs, bus signs, and sign posts) as necessary for safe construction of the project, and payments therefor will be made in accordance with units counted and documented by the Engineer.

e. **Delete** the Payment Clause in Section 10-1.21 COLD PLANE ASPHALT CONCRETE PAVEMENT and **Replace** with the following:

The contract price paid per **square yard** for **Cold Plane Asphalt Concrete Pavement (0.12' and 0.15')** shall include full compensation for furnishing all labor, materials including asphalt concrete for temporary transitions, tools, equipment and incidentals, and for doing all the work involved in cold planing and disposing of planed material; and constructing, maintaining, removing and disposing of temporary transitions, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

f. **Delete** Payment Clause in Section 10-1.25 ASPHALT CONCRETE (RAP OPTIONAL) (APPLY CALTRANS 2023 STANDARD SPECIFICATIONS) and **Replace** with the following:

Quantities of asphalt concrete with/without RAP, will be paid for at the contract price per **ton** for **Place 0.12' Thick Asphalt Concrete (Type A - ½" Aggregate Gradation)** and **Place 0.30' Asphalt Concrete (Type A – ¾" Aggregate Gradation)** and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, tack coat, and for doing all the work involved in constructing asphalt concrete complete in place, as shown on the plans, and as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer.

g. **Delete** Payment Clause in Section RUBBERIZED ASPHALT CONCRETE (TYPE G) (APPLY CALTRANS 2023 STANDARD SPECIFICATIONS) and **Replace** with the following:

Quantities of rubberized asphalt concrete will be paid for at the contract price per **ton** for **Place 0.12' Thick Rubberized Asphalt Concrete (Type G - 1/2" Aggregate Gradation)** and **Place 0.15' Thick Rubberized Asphalt Concrete (Type G - 1/2" Aggregate Gradation)** shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing rubberized asphalt concrete, complete in place, as shown on the plans, and as specified in the Standard Specifications, these special provisions, and as directed by the Engineer.

h. **Delete** Payment Clause in Section 10-1.34 ROADSIDE SIGNS **Replace** with the following:

The contract **unit price** paid for **Install Roadside Sign – One Post** shall include full compensation for furnishing all labor, materials (including metal posts) tools, equipment and incidentals, and for doing all work involved in furnishing and installing roadside signs, complete in place, including the installation of sign panels, as shown on the plans and as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer. Regardless of the number of signs on a given post, the pay quantity shall be counted as one (1) Sign for each post.

4. GREEN PAGES

a. **Delete** List of Standard and Special Drawing (Green Pages), **Replace** with attached Standard and Special Drawing (Green Pages), Addendum No.2 (Attachment #2)

5. PROPOSAL

a. Delete Bid Sheet P-4 and P-5, Replace with attached Addendum No.2, Sheet P-4 and P-5. (Attachment #3)

Amend the Project Plans as follows:

PROJECT PLAN SET

a. Replace the existing plan set with the Addendum No.2 plan set. (Attachment #1)

Attachments:
Attachments #1: Plan Set Addendum No. 2
Attachments #2: Standard and Special Drawing (Green Pages) Addendum No. 2
Attachments #3: Special Provision P-4 and P-5 Addendum No. 2

The addition of these requirements shall be considered in concert with existing documents in preparation of bids. **THE BIDDER'S CERTIFICATION FOR THIS ADDENDUM NO. 1 SHALL BE SIGNED BY THE SAME PERSON WHO SIGNS THE PROPOSAL AND SHALL BE SUBMITTED WITH THE PROPOSAL**. ***ANY proposal not accompanied by a signed BIDDER'S CERTIFICATION (below) acknowledging receipt of this Addendum No. 2 will NOT be accepted***.

Noel Castillo, Director
Department of Public Works

By: 

Andy Silao, P.E., Chief
Contracts Division

AS:mb

BIDDER'S CERTIFICATION:
By my signature hereunder, I acknowledge receipt of Addendum No. 2 and I fully understand the intent and detail of Addendum No. 2, which I have considered in my preparation of the attached proposal.

Bidder's Signature **Date**

Note: The page containing the executed BIDDER'S CERTIFICATION (just this page), must be included with the proposal.