



CAPITAL PROJECT SERVICES DEPARTMENT  
PUBLIC WORKS PROJECT

NOTICE TO CONTRACTORS  
GENERAL AND SPECIAL PROVISIONS  
PROPOSAL AND CONTRACT  
FOR

**STATE ROUTE 32 WIDENING PROJECT (PHASE 2)  
PROJECT NO. 15010  
FROM STATE ROUTE 99 TO EAST OF PARK AND RIDE LOT**

**BUDGET ACCOUNT NO. MAJGC/15010-300-4150  
FEDERAL PROJECT No. CML 5037 (026)**

For use in connection with:

- (1) State of California  
Department of Transportation  
STANDARD SPECIFICATIONS 2010
- (2) City of Chico  
STANDARD PLANS  
CONSTRUCTION SPECIFICATIONS

Prepared By or Under the Supervision of:

A handwritten signature in black ink, appearing to read "Brendan Ottoboni", written over a horizontal line.

Brendan Ottoboni R.C.E. 81916  
License Expiration Date: March 31, 2016

**BID OPEN DATE: ~~DECEMBER 10, 2015~~  
DECEMBER 15<sup>th</sup>, 2015**

**CITY OF CHICO**  
PUBLIC WORKS DEPARTMENT  
CHICO, CALIFORNIA

NOTICE TO BIDDERS – PUBLIC WORKS PROJECT

STATE ROUTE 32 WIDENING PROJECT (PHASE 2)  
PROJECT NO. 15010  
FROM STATE ROUTE 99 TO EAST OF PARK AND RIDE LOT  
(Project Title)

CML-5037 (026)  
(Federal Project Number)

MAJGC/15010-300-4150  
(Budget Account No.)

**NOTICE INVITING BIDS** - The City of Chico will receive sealed bids for the above public works project at the Public Works Department, located at the Chico Municipal Center, 2nd Floor, 411 Main Street, Chico, CA 95928 (Mailing Address: P. O. Box 3420, Chico, CA 95927), until 4:00 PM ~~December 10, 2015~~ **December 15<sup>th</sup>, 2015**, at which time they will be publicly opened and read aloud. A planholders list or, once the results have been determined by staff, bid results, may be obtained at the following City website address: [www.chico.ca.us](http://www.chico.ca.us). On the Home page, click Departments, Capital Project Services, Projects to Bid.

**GENERAL WORK DESCRIPTION** – The work, in general, to be done under this contract consists of roadway widening, pavement rehabilitation and overlay of existing roadway, drainage improvements, signal modifications and traffic signal installation, overhead sign installation, landscaping, and all necessary appurtenances, all in conformance with the attached contract specifications and the details as shown on the contract plans entitled:

**STATE ROUTE 32 WIDENING PROJECT (PHASE 2)**  
**PROJECT NO. 15010**  
**FROM STATE ROUTE 99 TO EAST OF PARK AND RIDE LOT**

**PRE-BID MEETING** – No pre-bid meeting will be held.

**BIDDERS INFORMATION** – Bid documents (plans and specifications) may be obtained from the Public Purchase on-line bidding service. Registration is required to use the service. There is no charge to register or obtain bid documents in digital format. Log onto [www.publicpurchase.com](http://www.publicpurchase.com). Once you have registered, browse to the City of Chico's projects using the "Select Agency" button on the home page. Search for "**State Route 32 Widening Project (Phase 2)**". A link to the project documents can be found in the City of Chico E-Plan Room on the City of Chico website at [www.chico.ca.us](http://www.chico.ca.us). Click Departments, Capital Projects Services, Projects to Bid.

Plans and Specifications may be available for viewing at a Contractor's Exchange. Contact Exchanges directly to inquire about availability. All addenda notifications will be emailed to plan holders by Public Purchase.

Questions and Requests for Information regarding the project must be submitted to Public Purchase at the bid site. Responses to questions will be distributed to plan holders via email. Questions and Requests for Information must be submitted seven calendar days prior to bid opening.

**BID SUBMITTAL REQUIREMENTS** - Bidders may only submit their bids on proposal forms provided by the City. **Bids must be submitted in a sealed envelope plainly marked on its outside with the project title, City budget account number (see above), the bid opening date and bid opening time.** Each bid must be accompanied by cash, a certified or cashier's check, or a bid bond in favor of the CITY OF CHICO in an amount equal to at least ten percent (10%) of the amount bid, such guaranty to be forfeited should the bidder to whom the contract is awarded fail to enter into the contract.

BARRIER SYSTEMS, INC.  
180 RIVER ROAD,  
RIO VISTA, CA 94571  
TELEPHONE: (888) 800-3691

DISTRIBUTERS:  
STATEWIDE SAFETY & SIGNS, INC.,  
1376 BIAISDELL PLACE  
POWAY, CA 92064  
TELEPHONE: (858) 679-7292

**12-3.18B(2) ACZ 350**

ACZ 350 temporary crash cushion (ACZ 350) must:

1. Be a gating, non-redirective crash cushion system
2. Manufactured by Energy Absorption Systems, Inc.
3. Include all the items detailed for the temporary crash cushion shown on the plans and on the manufacturer's plans.
4. Conform to the manufacturer's Product Description: ACZ 350 TL-3 Crash Cushion

The successful bidder can obtain the temporary crash cushion (ACZ 350) from the following source:

MANUFACTURER:  
ENERGY ABSORPTION SYSTEMS, INC.  
35 EAST WACKER DRIVE  
CHICAGO, IL. 60601-2076  
TELEPHONE: (312) 467-6750  
FAX: (312) 467-1356

**12-3.18C Construction**

Install alternative temporary crash cushion system in conformance with the approved quality control program.

Dispose surplus excavated material remaining after the alternative temporary crash cushion system has been installed in a uniform manner along the adjacent roadway as authorized.

Maintain alternative temporary crash cushion system in place at each location, including times when work is not actively in progress. Alternative temporary crash cushion systems determined to be no longer required must be removed from the site of the work.

If your operations damage alternative temporary crash cushion systems, you must make repairs or replace crash cushions damaged beyond repair immediately at your expense. When ordered by the Engineer, you must replace immediately alternative temporary crash cushion systems damaged beyond repair by public traffic.

At the completion of the project, alternative temporary crash cushion systems become your property and must be removed from the site of the work. Do not install alternative temporary crash cushion systems in the permanent work.

**12-3.18D PAYMENT**

Repairing temporary crash cushion systems damaged by public traffic is paid as change order work. Temporary crash cushion systems replaced due to damage by public traffic is measured and paid for as alternative temporary crash cushion system.

Moving the alternative temporary crash cushion system to a location not shown is paid as change order work.

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~~Ramp closure charts are for the erection of overhead sign structures.~~



**Add to section 39-1.02E:**

Aggregate used in HMA Type A must comply with the 3/4-inch HMA Types A and B gradation.

Aggregate for HMA-O must comply with the 1/2-inch OGFC gradation.

~~Do not test HMA-O aggregate for plasticity index and tensile strength ratio.~~

**Replace the 2nd, 3rd, and 4th paragraphs of section 39-1.03D(1) of the RSS for section 39 with:**

Place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place kraft paper or another authorized release agent under the conform tapers to facilitate the taper removal when paving activities resume.

**Delete section 39-1.03D(2) of the RSS for section 39.**

**Replace the 2nd, 3rd, and 4th paragraphs of section 39-1.11B(1) of the RSS for section 39-1.11 with:**

~~Place HMA on adjacent traveled way lanes so that at the end of each work shift the distance between the ends of HMA layers on adjacent lanes is from 5 to 10 feet. Place additional HMA along the transverse edge at each lane's end and along the exposed longitudinal edges between adjacent lanes. Hand rake and compact the additional HMA to form temporary conforms. You may place Kraft paper or another authorized bond breaker under the conform tapers to facilitate the taper removal when paving operations resume.~~

**Delete section 39-1.11B(2) of the RSS for section 39-1.11.**

**Add to section 39-1.11D of the RSS for section 39-1.11:**

~~Pave shoulders and median borders adjacent to the lane before opening a lane to traffic.~~

~~Place shoulder conform tapers concurrently with the adjacent lane's paving.~~

~~Place additional HMA along the pavement's edge to conform to road connections and driveways. Hand rake, if necessary, and compact the additional HMA to form a smooth conform taper.~~

**Replace the headings and paragraphs in section 39-1.12 with:**

**39-1.12A General**

~~Section 39-1.12 includes specifications for measuring pavement smoothness with an inertial profiler (IP) and straightedge, analyzing the data with FHWA's engineering software ProVAL, and correcting deficient smoothness.~~

~~The RSS for sections 39-1.12 and 39-1.12C do not apply.~~

~~Test pavement smoothness using an IP except use a 12-foot straightedge at the following locations:~~

- ~~1. Traffic lanes less than 1,000 feet in length including ramps, turn lanes, and acceleration and deceleration lanes~~
- ~~2. HMA pavement within 3 feet from and parallel to the construction joint formed between curbs, gutters, or existing pavement~~
- ~~3. Areas within 15 feet of manholes~~
- ~~4. Shoulders~~
- ~~5. Weigh-in-motion areas~~
- ~~6. Miscellaneous areas such as medians, gore areas, turnouts, and maintenance pullouts~~

~~Where IP testing is required, pavement smoothness for each lane must be determined by the international roughness index (IRI) for the left and right wheel paths in an individual lane and then~~

averaging the results. The average of the IRIs from the left and right wheel paths for the same lane is the mean roughness index (MRI) of the lane. The wheel paths are a pair of lines 3 feet from and parallel to the edge of a lane. Left and right wheel paths are based on the direction of travel.

Where IP testing is required, identify areas of localized roughness. Areas of localized roughness must be identified using the ProVAL smoothness assurance analysis by calculating continuous IRI for each wheel path with a 25-foot interval.

Collect profiling data under AASHTO R 56 and analyze data using 250 mm and IRI filters.

Interpret references to "must grinds" as "localized roughness" and "PI0" as "MRI" in the RSS for section 39.

### **39-1.12B Submittals**

At least 5 business days before start of initial profiling or changing profiler or operator, submit:

1. IP certification issued by Texas Transportation Institute (TTI). The certification must be not more than 12 months old.
2. Operator certification for the IP issued by TTI. The operator must be certified for each different model of IP device operated. The certification must be not more than 36 months old.
3. List of manufacturer's recommended test procedures for IP calibration and verification.

Within 2 business days after cross correlation testing, submit ProVAL profiler certification analysis report for cross correlation test results performed on test section to the Engineer and to the electronic mailbox address:

smoothness@dot.ca.gov

Within 2 business days after each day of inertial profiling, submit profile data to the Engineer and to the electronic mailbox address:

smoothness@dot.ca.gov

The profiling data must include:

1. Raw profile data for each lane.
2. ProVAL ride quality analysis report for IRIs of left and right wheel paths of each lane. Submit in pdf file format.
3. ProVAL ride quality analysis report for MRIs of each lane. Submit in pdf file format.
4. ProVAL smoothness assurance analysis report for IRIs of left wheel path. Submit in pdf file format.
5. ProVAL smoothness assurance analysis report for IRIs of right wheel path. Submit in pdf file format.
6. GPS data file for each lane in GPS exchange. Submit in GPS eXchange file format.
7. Manufacturer's recommended IP calibration and verification tests results.
8. AASHTO IP calibration and verification test results including bounce, block, and distance measurement instrument (DMI).

Submit the raw profile data in unfiltered electronic pavement profile file (PPF) format. Name the PPF file using the following naming convention:

YYYYMMDD\_TTCCRRR\_D\_L\_W\_S\_X\_PT.PPF

where:

YYYY = year

MM = Month, leading zero

DD = Day of month, leading zero

TT = District, leading zero

CCC = County, 2 or 3 letter abbreviation as shown in section 1-1.08

RRR = Route number, no leading zeros

D = Traffic direction as NB, SB, WB, or EB

L = Lane number from left to right in direction of travel

W = Wheel path as "L" for left, "R" for right, or "B" for both

- S = Beginning station to the nearest foot (i.e., 10+20) or beginning post mile to the nearest hundredth (i.e., 25.06) no leading zero
- X = Profile operation as "EXIST" for existing pavement, "INTER" for after prepaving smoothness correction, "PAVE" for after paving, and "CORR" for after final surface pavement correction
- PT = Pavement type (i.e., HMA, RHMA, HMA-O, RHMA-O, RHMA-G, etc.)

Within 2 business days of performing straightedge measurements, submit areas requiring smoothness correction. Identify locations of smoothness correction by:

1. Location Number
2. District-County-Route
3. Beginning station or post mile to the nearest 0.01 mile
4. For correction areas within a lane:
  - 4.1. Lane direction as NB, SB, EB, or WB
  - 4.2. Lane number from left to right in direction of travel
  - 4.3. Wheel path as "L" for left, "R" for right, or "B" for both
5. For correction areas not within a lane:
  - 5.1. Identify pavement area (i.e., shoulder, weight station, turnout)
  - 5.2. Direction and distance from centerline as "L" for left or "R" for right
6. Estimated size of correction area

### **39-1.12C Inertial Profiler Calibration and Verification Tests**

IP equipment must display a current certification decal with expiration date.

Operate the IP according to the manufacturer's recommendations and AASHTO R 57 at 1-inch recording intervals.

Notify the Engineer 2 business days before performing IP calibration and verification testing.

Conduct the following IP calibration and verification tests in the Engineer's presence each day before performing inertial profiling:

1. Block test. Verify the height sensor accuracy under AASHTO R 57, section 5.3.2.3.
2. Bounce test. Verify the combined height sensor and accelerometer accuracy under AASHTO R 57, section 5.3.2.3.2.
3. DMI test. Calibrate the accuracy of the testing procedure under AASHTO R 56, section 8.4.
4. Manufacturer's recommended tests.

Conduct cross correlation IP verification test in the Engineer's presence before performing initial profiling. Verify cross correlation IP verification test at least annually. Conduct 5 repeat runs of the IP on an authorized test section. The test section must be on an existing asphalt concrete pavement surface 0.1 mile long. Calculate a cross correlation to determine the repeatability of your device under Section 8.3.1.2 of AASHTO R 56 using ProVAL profiler certification analysis with a 3-foot maximum offset. The cross correlation must be a minimum of 0.92.

For each 0.1 mile section, your IRI values must be within 10 percent of the Department's IRI values. The Engineer may order you to recalibrate your IP equipment and reprofile. If your results are inaccurate due to operator error, the Engineer may disqualify your IP operator.

### **39-1.12D Acceptance Criteria**

For areas that require pavement smoothness determined using an IP, the pavement surface must:

1. Have no areas of localized roughness with an IRI greater than 120 in/mi
2. Comply with the MRI requirements shown in the following tables for a 0.1 mile section:

### HMA<sup>a</sup> Pavement Smoothness Acceptance Criteria

HMA thickness	MRI requirement
> 0.20 foot	60 in/mi or less
≤ 0.20 foot	75 in/mi or less

<sup>a</sup> Except OGFC

### OGFC Pavement Smoothness Acceptance Criteria

OGFC placement on	MRI requirement
New construction, or HMA overlay	60 in/mi or less
Existing pavement	75 in/mi or less
Milled surface	75 in/mi or less

For areas that require pavement smoothness determined using a 12-foot straightedge, the HMA pavement surface must not vary from the lower edge of the straightedge by more than:

1. 0.01 foot when the straightedge is laid parallel with the centerline
2. 0.02 foot when the straightedge is laid perpendicular to the centerline and extends from edge to edge of a traffic lane
3. 0.02 foot when the straightedge is laid within 24 feet of a pavement conform

Pavement smoothness may be accepted based on your testing in the absence of the Department's testing.

#### **39-1.12E Smoothness Testing**

##### **39-1.12E(1) General**

Notify the Engineer of start location by station and start time at least 2 business days before performing smoothness testing.

Remove foreign objects on the pavement surface before testing.

Mark the beginning and ending station on the pavement shoulder before testing. Stationing must be the same when profiling more than one surface.

##### **39-1.12E(2) Inertial Profiler**

While collecting the profile data to determine IRI, record the following locations in the raw profile data:

1. Begin and end of all bridge approach slabs
2. Begin and end of all bridges
3. Begin and end of all culverts visible on the roadway surface

Determine the MRI for 0.1 mile fixed sections using the ProVAL ride quality analysis. Profile the left and right wheel paths of each lane. Calculate the MRI of each lane. A partial section less than 0.1 mile that is the result of an interruption to continuous pavement surface must comply with the MRI specifications for a full section. Adjust the MRI for a partial section to reflect a full section based on the proportion of a section paved.

Determine the areas of localized roughness using a continuous IRI for each wheel path with a 25-foot interval. Localized roughness greater than 120 in/mi must be corrected regardless of the IRI values of a 0.1 mile section.

Determine the MRI of the HMA, except OGFC. If the MRI of the final pavement surface is greater than the MRI acceptance requirement in the table titled "HMA Pavement Smoothness Acceptance Criteria" in section 39-1.12D, correct to the MRI acceptance requirement in the table.

The final surface of HMA must meet MRI acceptance requirements in the table titled "HMA Pavement Smoothness Acceptance Criteria" in section 39-1.12D before placing OGFC.

Determine the MRI of the OGFC. If OGFC MRI is greater than the accepted value in the table titled "OGFC Pavement Smoothness Acceptance Criteria" in section 39-1.12D, correct to the MRI acceptance requirement in the table.

### **39-1.12E(3) Straightedge**

Measure areas that require 12-foot straightedge. If the straightedge measurement is greater than the accepted value in section 39-1.12D, correct to the acceptance requirement.

### **39-1.12F Smoothness Correction**

If the final surface of the pavement does not comply with section 39-1.12D, grind the pavement to within specified tolerances, remove and replace it, or place an overlay of HMA. Do not start corrective work until your method is authorized.

Smoothness correction of the final pavement surface must leave at least 75 percent of the specified HMA thickness. If ordered, core the pavement at the locations determined by the Engineer. Coring, including traffic control, is change order work. Remove and replace deficient pavement areas where the overlay thickness is less than 75 percent of the thickness specified as determined by the Engineer.

If you choose to correct OGFC, the Engineer determines if the corrective method causes raveling. OGFC that is raveling must be removed and replaced.

Corrected HMA pavement areas must be uniform rectangles with edges:

1. Parallel to the nearest HMA pavement edge or lane line
2. Perpendicular to the pavement centerline

On ground areas not to be overlaid with OGFC, apply fog seal coat under section 37-2.

Where corrections are made within areas requiring testing with IP, reprofile the entire lane length with the IP device.

Where corrections are made within areas requiring testing with a 12-foot straightedge, retest the corrected area with the straightedge.

### **39-1.12G Prepaving Inertial Profiler**

Section 39-1.12G applies to existing asphalt concrete areas receiving an HMA overlay. Comply with section 39-1.12A, 39-1.12C and 39-1.12E.

Before starting paving operations, perform prepaving IP measurements. Prepaving IP includes taking profiles of the existing pavement, analyzing the data with ProVAL to determine existing pavement IRI, MRI, and areas of localized roughness.

Identify areas of localized roughness greater than 140 in/mi.

### **39-1.12H Prepaving Grinding**

Section 39-1.12H applies to existing asphalt concrete areas receiving an HMA overlay of less than or equal to 0.20-foot.

After performing prepaving inertial profiling, correct areas of localized roughness greater than 140 in/mi.

Prepaving grinding day includes correcting areas of localized roughness, taking profiles of the corrected areas, and submitting profile data as specified in section 39-1.12B.

Notify the Engineer of those areas of localized roughness that cannot be corrected by prepaving grinding. The Engineer responds to your notification within 5 business days.

For those areas of localized roughness that cannot be corrected by grinding, the Engineer may order you to either (1) not correct the areas of localized roughness or (2) correct areas of localized roughness by a different method and take profiles of the corrected areas with an IP. Corrective work performed by a

~~different method, including taking profiles of the corrected areas and associated traffic control, is change order work.~~

~~Correct prepaving areas of localized roughness that you predict will cause the final surface of HMA pavement to be noncompliant with the smoothness specifications. After correcting prepaving areas of localized roughness, take profiles of the corrected area and submit profile data as specified in section 39-1.12B.~~

~~Dispose of grinding residue.~~

~~Pave within 7 days of correcting areas.~~

~~The final pavement surface must comply with section 39-1.12D.~~

~~If ordered not to correct areas of localized roughness, the smoothness specifications do not apply to the final pavement surface placed in those areas.~~

**Replace section 39-1.30 with:**

**39-1.30 EDGE TREATMENT, HOT MIX ASPHALT PAVEMENT**

**39-1.30A General**

~~Section 39-1.30 includes specifications for constructing the edges of HMA pavement as shown.~~

**39-1.30B Materials**

~~For the safety edge, use the same type of HMA used for the adjacent lane or shoulder.~~

**39-1.30C Construction**

~~The edge of roadway where the safety edge treatment is to be placed must have a solid base, free of debris such as loose material, grass, weeds, or mud. Grade areas to receive the safety edge as required.~~

~~The safety edge treatment must be placed monolithic with the adjacent lane or shoulder and shaped and compacted with a device attached to the paver.~~

~~The device must be capable of shaping and compacting HMA to the required cross section as shown. Compaction must be by constraining the HMA to reduce the cross sectional area by 10 to 15 percent. The device must produce a uniform surface texture without tearing, showing, or gouging and must not leave marks such as ridges and indentations. The device must be capable of transition to cross roads, driveways, and obstructions.~~

~~For safety edge treatment, the angle of the slope must not deviate by more than  $\pm 5$  degrees from the angle shown. Measure the angle from the plane of the adjacent finished pavement surface.~~

~~If paving is done in multiple lifts, the safety edge treatment can be placed either with each lift or with the final lift.~~

~~Short sections of hand work are allowed to construct transitions for safety edge treatment.~~

~~For more information on the safety edge treatment, go to:~~

~~[http://safety.fhwa.dot.gov/roadway\\_dept/pavement/safedge/](http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/)~~

~~You can find a list of commercially available devices at the above Web site under "Frequently Asked Questions" and "Construction Questions."~~

**39-1.30D Payment**

~~Not Used~~

**Replace "Reserved" in section 39-2.02C of the RSS for section 39 with:**

The grade of asphalt binder for Type A HMA must be 64-10.

**Add to section 39-4.02C of the RSS for section 39:**

For HMA-O, the grade of asphalt binder must be 64-16.

