

Bid Addendum No. 1
February 6, 2024

Subject: Village of Lake Barrington
2024 Road Program
Section No.: 25-00000-01-GM
February 14, 2024 Letting

To Prospective Bidders:

The contract documents for the above referenced project are hereby amended as set forth below. The information contained within this Addendum No. 1 shall be treated as if it was originally contained within the contract documents.

Modifications to the Notice to Bidders:

There is a discrepancy with the bid opening date and time. The bid advertisement states a bid opening of February 14, 2024 at 1:30pm. The Notice to Bidders is hereby updated to match the advertised bid opening of February 14, 2024 at 1:30pm at Lake Barrington Village Hall.

Replace the original Notice to Bidders in its entirety with the Notice to Bidders herein:

Modifications to the Special Provisions:

The special provision for FULL-DEPTH RECLAMATION (FDR) WITH CEMENT has been added to the project.

Add the Special Provision provided for FULL-DEPTH RECLAMATION (FDR) WITH CEMENT to the original bid package:

No Proposal shall be considered responsive nor shall any Proposal be considered unless the appropriate space for acknowledgement of the addendum is completed in the original bid package and unless the Proposal is accompanied by a signed and attested copy of this Addendum No. 1. The signed and attested copy of Addendum No. 1 shall be attached to the Proposal.

The undersigned agrees to be bound by the modifications made within this Addendum No. 1, and hereby waives any and all claims based upon the additional or modified information contained herein.

Acknowledgement of Addendum No. 1

Date: _____

Company Name: _____

Signature: _____

Name: _____

Local Public Agency	County	Section Number	Route(s) (Street/Road Name)
Village of Lake Barrington	Lake	25-00000-01-GM	Various

NOTICE TO BIDDERS

Sealed proposals for the project described below will be received at the office of the Village of Lake Barrington,

23860 N. Old Barrington Road, Lake Barrington, Illinois 60010

Address

Name of Office

until 1:30 PM on 02/14/24

Time Date

Name of Office

at 1:30 PM on 02/14/24

Time Date

Sealed proposals will be opened and read publicly at the office of the Village of Lake Barrington, 23860 N. Old Barrington

Road, Lake Barrington, Illinois 60010

Address

DESCRIPTION OF WORK

Location	Project Length
Various roads and streets within the Village of Lake Barrington	1.29 miles

Proposed Improvement

Consists of hot-mix asphalt surface removal, hot-mix asphalt binder course, hot-mix asphalt surface course, pavement markings, and all necessary collateral work to construct the improvements.

1. Plans and proposal forms will be available in the office of

HR Green, Inc., 1391 Corporate Drive, Suite 203, McHenry, Illinois 60050. Upon presentation of prequalification certification. Contact Tina Napolitano at (815) 759-8358 or tnapolitano@hrgreen.com.

2. Prequalification

If checked, the 2 apparent as read low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57) in triplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One original shall be filed with the Awarding Authority and two originals with the IDOT District Office.

3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.

4. The following BLR Forms shall be returned by the bidder to the Awarding Authority:

- a. Local Public Agency Formal Contract Proposal (BLR 12200)
- b. Schedule of Prices (BLR 12201)
- c. Proposal Bid Bond (BLR 12230) (if applicable)
- d. Apprenticeship or Training Program Certification (BLR 12325) (do not use for project with Federal funds.)
- e. Affidavit of Illinois Business Office (BLR 12326) (do not use for project with Federal funds)

5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.

6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case, be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.

7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.

8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.

9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

FULL-DEPTH RECLAMATION (FDR) WITH CEMENT

All references to Divisions, Sections, and Articles in this specification shall be construed to mean specific Divisions, Sections, and Articles in the Standard Specifications for Road and Bridge Construction adopted by the Department of Transportation.

Description. This work shall consist of cold milling and pulverizing all of the existing bituminous layers and/or portions of the aggregate base material to a specified depth and maximum size; mixing cement, water and additives with the recycled material; and spreading and compacting the mixture.

Materials. Materials shall be according to the following Articles of Division 1000 – Materials.

Item	Article/Section
(a) Portland Cement (Note 1).....	1001
(b) Water.....	1002
(c) Fine Aggregate (Note 2).....	1003
(d) Coarse Aggregate (Note 2).....	1004
(e) Reclaimed Asphalt Pavement (Note 3).....	1031
(f) Cold Pulverized Material (Note 4)	
(g) Mix Design (Note 5)	

Note 1 Limit. The type and allowable percentage will be described in the mix design.

Note 2 The mix design will specify gradation and quality of any additional aggregate. Any additional fine aggregate shall meet Class B quality as a minimum. Any additional coarse aggregate shall meet Class C quality as a minimum.

Note 3 The Engineer may allow reclaimed asphalt pavement (RAP) from Conglomerate “D” Quality or better RAP stockpiles as specified in Article 1031.02 or from millings of the existing highway. The RAP material shall not exceed the maximum size requirement of the cold pulverized material, and when blended with the cold pulverized material, shall produce a product which meets the specifications of the mix design.

Note 4 After pulverization, the gradation of the cold pulverized material shall meet the following requirements.

COLD PULVERIZED MATERIAL GRADATIONS				
Grad No.	Sieve Size and Percent Passing			
	3 in. (75 mm)	2 in. (50 mm)	1 ½ in. (37.5 mm)	No 4 (4.75 mm)
PM 3	100	100	100-97	
PM 4	100	95		55

Note 5 A mix design for each distinct section shall be submitted to the Department prior to construction using actual materials (in-situ sampled by the Contractor and new materials from the Contractor’s material suppliers) proposed for the project. The job mix formula shall meet the criteria in Attachment II-C (Cement) of Illinois Department of Transportation’s Geotechnical Manual and shall be approved by the Engineer.

FDR WITH CEMENT MIX DESIGN REQUIREMENTS	
Test Method	Requirement
Gradation for Design Millings, AASHTO T 27	Report
Liquid Limit, AASHTO T 89	Report
Plasticity Index, AASHTO T 90	Report
Sand Equivalent, ASTM D2419, Method B	Report
Moisture Density Relationship	Report
Compressive Strength, 3 day, (psi) Compressive Strength, 7 day, (psi)	300 min 500 min
Freeze Thaw Durability, Vacuum Saturation Test, 7 day (psi)	350 min
Additional Additives(s) Coarse Aggregate Fine Aggregate RAP	Report Report Report
Cement Percentage	Report

Notes: 1. Report shall include type/gradation and producer/supplier.

Equipment. Equipment shall be according to the following Articles of Division 1100 – Equipment.

- (a) Vibratory Roller (Note 1).....1101.01(g)
- (b) Mechanical Sweeper 1101.03
- (c) Motor Grader..... 1101.05
- (d) Self-Propelled Milling Machine.....1101.06(a)
- (e) Mechanical Spreader (Note 2)
- (f) Self-Propelled Reclaimer (Note 3)
- (g) Self-Propelled Vibratory Padfoot Roller (Note 4)
- (h) Water Truck (Note 5)

Note 1. The double drum vibratory steel roller shall have a gross weight of not less than 10 tons (9 metric tons).

Note 2. Spreaders or distributors used to apply the stabilization chemical for FDR shall be cyclone, screw type or pressure manifold type. Spreaders or distributors used shall be able to demonstrate a consistent and accurate application rate while minimizing dust during construction. Imported granular material used for FDR may be tailgated with end dumps and spread to a uniform thickness with a motor grader or it may be spread with mechanical spreader or placed with a conventional paver.

Note 3. The self-propelled reclaimer shall be capable of fully pulverizing the existing pavement to the depth required mix the materials to produce a homogeneous material. The self-propelled reclaimer shall be capable of mixing in place to a minimum depth of 12 in. should be used. The cutting drum should be fitted with cutting teeth capable of trimming earth, aggregate and bituminous mixtures, and so designed that they may be accurately adjusted vertically and held in place. The machine shall weigh at least 12.5 tons (11.5 metric tons) and shall have such strength and rigidity that it will not develop a center deflection of more than 1/8 in (0.125 mm). Disc harrows, bucket teeth and other equipment that do not meet the above requirements shall not be used.

Note 4. The self-propelled vibratory pad foot roller shall have 84 in. (2133 mm) wide drums and gross weight of not less than 10 tons (9 metric tons). A front mounted blade is recommended for back-dragging. A self-propelled vibratory pad foot roller shall be required for each self-propelled reclaimer.

Note 5. Water trucks shall be set up for a controlled spray.

CONSTRUCTION REQUIREMENTS

General Conditions. This work consisting of cement application, mixing, spreading, compacting, and finishing shall be continuous and completed within 2 hours from the start of mixing. Any processed material that has not been compacted and finished shall not be left undisturbed for longer than 30 minutes.

Weather Limitations. This work shall be performed when the atmospheric temperature in the shade and away from artificial heat is 40° F (10 °C) and rising.

Pre-pulverization and Initial Shaping. Moisture content shall be within \pm 2.0 percent from the optimum moisture content determined by the mix design. If the moisture content is too low, water shall be added directly by a water truck. The existing pavement shall be pre-pulverized by the self-propelled reclaimer and/or shaped by the motor grader to correct for profile, crown, and contour, according to the plans, before the addition of the cement. Water, coarse aggregate, RAP Material, or other additives required may be added during this operation. The pre-pulverized and shaped material shall be compacted with a vibratory roller in static mode to support equipment and/or traffic and to provide depth control during processing. Depth of pre-pulverization and shaping shall be 1 in. (25 mm) to 2 in. (50 mm) less than the depth of final processing.

Processing. The quantity of cement specified in the mix design shall be spread on the finished surface of the pre-pulverized material using a mechanical spreader. If a slurry is being applied, the finished surface of the pre-pulverized material shall be scarified prior to spreading of the slurry to prevent excessive runoff or ponding.

Mixing shall begin as soon as possible after the cement has been spread; however, the time from cement placement on the finished surface of the pre-pulverized material shall not exceed 60 minutes. Mixing shall continue until the entire mixture is pulverized so that the mixed material passes the gradation specified.

The final test shall be made at the conclusion of mixing operations. Prior to compaction, the mixture shall be at the required moisture content throughout. If using dry cement, water application shall only be done through the self-propelled reclaimer integrated fluid injection system during mixing.

Compaction. The recycled material shall be compacted according to the following.

- (a) Growth Curve. Compaction shall be accomplished by performing a growth curve within the first one-half mile of production. If an adjustment is made to the cement or recycled depth, the Engineer reserves the right to request an additional growth curve. The growth curve, consisting of a plot of lb/cu-ft (kg/cu-m) versus number of passes with the project breakdown roller, shall be developed. Roller speed during the growth curve testing shall be the same as the normal paving operation. This curve shall be established by use of a nuclear gauge. Tests shall be taken after each pass until the highest lb/cu ft (kg/cu m) is obtained. This value shall be the target density.

A new growth curve is required if the rollers used on the growth curve are replaced with a new roller during production. The target density shall apply only to the specific gauge used. If additional gauges are to be used to determine density specification compliance, the Contractor shall establish a unique minimum allowable target density from the growth curve location for each gauge.

(b) Rollers. Immediately after processing and final shaping the recycled material shall be compacted with equipment meeting the following requirements.

MINIMUM ROLLER REQUIREMENTS FOR FDR			
Breakdown Roller (one of the following)	Intermediate Roller ¹	Final Roller (one or more of the following) ¹	Density Requirement
P ¹ , PF ²	P, V _D	P, V _S	95 – 102 percent of the target density obtained on the growth curve

Notes(s):
 1. *Equipment definitions in Table 1 of Article 406.07.*
 2. *PF – Self-propelled vibratory padfoot roller for breakdown rolling.*

(c) Rolling. The breakdown roller shall be 500 ft (150 m) or less behind all self-propelled reclaimer units. The recycled material shall be compacted by the padfoot roller, applying high amplitude and low frequency, or the pneumatic-tired roller. Breakdown rolling shall be performed until the breakdown roller walks out of the material. Walking out for the padfoot roller is defined as light being clearly evident between all of the pads at the material-padfoot drum interface and being no more than 3/16 in. (5 mm) deep. Walking out for the pneumatic-tired roller is defined as no significant wheel impressions being left on the surface.

After the completion of breakdown rolling, the motor grader shall be used to cut the recycled material no deeper than necessary to remove breakdown roller marks from the initial compaction and to achieve desired cross slope.

The bladed recycled material shall be compacted by the intermediate and final rollers. The number of passes and order of rollers may be altered to meet compaction requirements. Finish rolling shall not be done in vibratory mode. Water may be lightly sprayed by a water truck to aid in improving final density and appearance. A second water truck is required if water is also being added at the reclaimer.

Curing. Finished portions of the FDR base that are traveled on by equipment used in constructing an adjoining section shall be protected in such a manner as to prevent equipment from marring or damaging completed work.

After completion of final finishing, the surface shall be cured by application of a bituminous or other approved sealing membrane, or by being kept continuously moist for a period of 7 days with a water spray that will not erode the surface of the FDR base. If curing material is used, it shall be applied as soon as possible, but not later than 24 hours after completing finishing operations. The surface shall be kept continuously moist prior to application of curing material.

For bituminous curing material, the FDR base surface shall be dense, free of all loose and extraneous materials and shall contain sufficient moisture to prevent excessive penetration of the bituminous material. The bituminous material shall be uniformly applied to the surface of the completed chemically stabilized material. The exact rate and temperature for complete coverage, without undue runoff, shall be specified by the engineer.

Should it be necessary for construction equipment or other traffic to use the bituminous covered surface before the bituminous material has dried sufficiently to prevent pickup, sufficient sand cover shall be applied before such use.

Sufficient protection from freezing shall be given the chemically stabilized material for 7 days after its construction or as approved by the engineer.

Micro Cracking. If a cementitious stabilizing agent is used, the surface course is thin, and the compressive strength of the FDR is not limited, micro cracking shall be used to help prevent shrinkage cracking and reduce reflective cracking in the final surface course.

A target compressive strength of 300 to 500 psi is typically selected for stabilized base strength. After an initial 48 hour cure period, the FDR should be tested to determine the stiffness modulus using an approved device. Note 1 If above the require stiffness, micro cracking of the FDR should be accomplished by a 12 ton steel drum vibratory roller. The roller should travel at a speed of approximately 2 mph and vibrating at maximum amplitude and lowest frequency, or as directed by the Engineer.

For reference:

<u>UCS</u>	<u>Stiffness, K</u>	<u>Micro Cracking</u>
300 to 500 psi	50+ MN/m (285.5 k lbf/in)	Yes

The section should have 100% coverage of the micro cracking process, exclusive of the outside 1 foot, so as to induce minute cracks in the FDR section. Typically 1 to 4 passes of the roller is required to achieve the required reduction in stiffness.

After the micro cracking operations, intermediate curing shall be continued. If the FDR section was previously moist cured, curing shall continue until paving. As an alternative, the stabilized surface can be moist cured for an additional 2 to 4 hours and then a bituminous fog seal applied.

Opening to Traffic. Completed portions of FDR base may be opened immediately to low speed local traffic and to construction equipment, provided the curing material or moist curing operations are not impaired and provided the FDR base is sufficiently stable to withstand marring or permanent deformation. The section can be opened up to all traffic after the FDR base has received a curing compound or subsequent surface and is sufficiently stable to withstand marring or permanent deformation. If continuous moist curing is employed in lieu of a curing compound or subsequent surfacing within 7 days, the FDR base can be opened to all traffic after the 7 day moist curing period, provided the FDR base has hardened sufficiently to prevent marring or permanent deformation.

Maintenance. The finished surface shall be maintained in good condition until all work is completed and accepted. Immediate repairs of any defects that may occur shall be done at the contractor's expense. If it is necessary to replace any processed material, the replacement shall be for full depth, with vertical cuts, using an approved material. No skin patches shall be permitted.

Quality Control/Quality Assurance (QC/QA)

- (a) Quality Control by the Contractor. The Contractor shall perform or have performed the inspection and tests required to assure conformance to contract requirements. Control includes the recognition of obvious defects and their immediate correction. This may require increased testing, communication of test results to the job site, modification of operations, suspension of the work, or other actions as appropriate.

The Engineer shall be immediately notified of any failing tests and subsequent remedial action. Passing tests shall be reported to the Engineer no later than the start of the next work day.

- (b) Quality Assurance by the Engineer. The materials testing Engineer will conduct independent assurance tests on split samples taken by the Contractor for quality control testing. In addition, the materials testing Engineer will witness the sampling and splitting of these samples and will immediately retain witnessed split samples for quality assurance testing.

(c) Tests Methods and Frequency

1. Depth of Pulverization (Milling). The nominal depth at the centerline shall be required. Anytime depth changes are made or equipment is idle, a depth check shall be taken.
2. Pulverized Material Sizing and Gradation. A sample shall be obtained before cement addition and screened using a 3.0 in. (37.5 mm) sieve (or smaller sieve if required) to determine if meeting the maximum particle size requirement. Gradations shall be performed each day on the moist millings using the following sieves: 2.0, in. 1.5 in., 1.0 in., ¾ in., ½ in., 3/8 in., No. 4, No. 8, No. 16, and No. 30. The resulting gradation shall be compared to the mix design gradations to determine any necessary changes to cement content.

Sampling procedures shall generally be in accordance with ASTM D 979 or AASHTO T 168.

3. Cement Application Rate. The Engineer shall be notified any time cement application rate is changed. The cement application rate shall be checked and recorded for each segment in which the percentage is changed.
4. Water Content. The Engineer shall be notified any time the water content is changed. Water content at the milling head shall be checked and recorded for each segment in which the percentage is changed. This information shall be gathered from the water metering device, which can be checked from the belt scale totalizer to verify daily quantities used. Water content changes shall be made based on mixture consistency, coating, and dispersion of the recycled materials.
5. Compacted Density. A dry density shall be determined using a nuclear moisture-density gauge generally following the procedures for ASTM D 2950, direct transmission measurement. This measurement shall be compared to the target density obtained by the growth curve.
6. Frequency. The following table provides the minimum frequency for tests; however, the Engineer may increase the testing frequency if the construction process is experiencing problems or unknown conditions are encountered.

QC/QA TESTING FREQUENCY		
Test	QC Frequency ¹	QA Frequency ¹
Depth of Pulverization	1 per 500 ft (150 m)	1 per 1000 feet (300 m)
Pulverized Material Gradation	1 per 0.5 day of production	1 per day of production
Cement Application Rate	1 per 500 ft (150 m)	1 per 1000 feet (300 m)
Water Content	1 per 500 feet (150 m)	1 per 1000 feet (300 m)
Compacted Density	1 per 0.25-mile (0.4 km)	1 per mile (1.6 km)
Compacted Strength ²	1 per 0.5 day of production	not required

- Note:*
1. The Contractor shall perform all quality control tests within the first 500 ft (150 m) after startup or any change in the mix. The Department will also run the split samples at these locations.
 2. Strength specimens prepared in the field for testing after 3 days and 7 days cure or as prescribed by the engineer. Tests are for information only, not acceptance.

Cement quantities will be specified by the mix design performed by the Contractor and approved by the Engineer.