Montana Fish, Wildlife & Parks

STATE OF MONTANA, FISH WILDLIFE AND PARKS INVITATION FOR BID (IFB)

(THIS IS NOT AN ORDER)

IFB Number:	IFB Title:
140265	Gravel

IFB Due Date and Time:	Number of Pages:
May 22, 2014 2:00 p.m., Local Time	20

ISSUING AGENCY INFORMATION

Procurement Officer:	Issue Date:
Kari Shinn	May 12, 2014

Fish, Wildlife & Parks Attn: Purchasing P O Box 200701 (Mailed) 930 Custer Ave West (Delivered) Helena MT 59620	Phone: (406) 495-3249 Fax: (406) 495-3253 TTY Users, Dial 711 Website: http://fwp.mt.gov/

INSTRUCTIONS TO BIDDERS

COMPLETE THE INFORMATION BELOW AND RETURN THIS PAGE AND COST PROPOSAL WITH YOUR BID AND ANY REQUIRED DOCUMENTS TO THE ADDRESS LISTED ABOVE UNDER "ISSUING AGENCY INFORMATION."	Mark Face of Envelope/Package: IFB Number: 140265 IFB Due Date: May 22, 2014
	Special Instructions:

BIDDERS MUST COMPLETE THE FOLLOWING

Payment Terms: Net 30 days	Delivery Date:
Bidder Name/Address:	Authorized Bidder Signatory: (Please print name and sign in ink)
Bidder Phone Number:	Bidder FAX Number:
Bidder E-mail Address:	Bidder Federal ID:

Debarment: The contractor certifies, by signing this bid or proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency.

IMPORTANT: SEE STANDARD TERMS AND CONDITIONS

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Standard Terms and Conditions

By submitting a response to this invitation for bid, request for proposal, limited solicitation, or acceptance of a contract, the vendor agrees to acceptance of the following Standard Terms and Conditions and any other provisions that are specific to this solicitation or contract.

ACCEPTANCE/REJECTION OF BIDS, PROPOSALS, OR LIMITED SOLICITATION RESPONSES: The State reserves the right to accept or reject any or all bids, proposals, or limited solicitation responses, wholly or in part, and to make awards in any manner deemed in the best interest of the State. Bids, proposals, and limited solicitation responses will be firm for 30 days, unless stated otherwise in the text of the invitation for bid, request for proposal, or limited solicitation.

ACCESS AND RETENTION OF RECORDS: The contractor agrees to provide the department, Legislative Auditor, or their authorized agents, access to any records necessary to determine contract compliance. (Section 18-1-118, MCA). The contractor agrees to create and retain records supporting the services rendered or supplies delivered for a period of three years after either the completion date of the contract or the conclusion of any claim, litigation, or exception relating to the contract taken by the State of Montana or third party.

ALTERATION OF SOLICITATION DOCUMENT: In the event of inconsistencies or contradictions between language contained in the State's solicitation document and a vendor's response, the language contained in the State's original solicitation document will prevail. Intentional manipulation and/or alteration of solicitation document language will result in the vendor's disqualification and possible debarment.

ASSIGNMENT, TRANSFER AND SUBCONTRACTING: The contractor shall not assign, transfer or subcontract any portion of the contract without the express written consent of the department. (Section 18-4-141, MCA.)

AUTHORITY: The attached bid, request for proposal, limited solicitation, or contract is issued under authority of Title 18, Montana Code Annotated, and the Administrative Rules of Montana, Title 2, chapter 5.

COMPLIANCE WITH LAWS: The contractor must, in performance of work under the contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

CONFORMANCE WITH CONTRACT: No alteration of the terms, conditions, delivery, price, quality, quantities, or specifications of the contract shall be granted without prior written consent of Montana Fish, Wildlife & Parks. Supplies delivered which do not conform to the contract terms, conditions, and specifications may be rejected and returned at the contractor's expense.

DEBARMENT: The contractor certifies, by submitting this bid or proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the contractor cannot certify this statement, attach a written explanation for review by the State.

DISABILITY ACCOMMODATIONS: The State of Montana does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services, or activities. Individuals who need aids, alternative document formats, or services for effective communications or other disability related

accommodations in the programs and services offered are invited to make their needs and preferences known to this office. Interested parties should provide as much advance notice as possible.

FACSIMILE RESPONSES: Facsimile responses will be accepted for invitations for bids, small purchases, or limited solicitations ONLY if they are completely received by Montana Fish, Wildlife & Parks prior to the time set for receipt. Bids, or portions thereof, received after the due time will not be considered. Facsimile responses to requests for proposals are ONLY accepted on an exception basis with prior approval of the procurement officer.

FAILURE TO HONOR BID/PROPOSAL: If a bidder/offeror to whom a contract is awarded refuses to accept the award (PO/contract) or fails to deliver in accordance with the contract terms and conditions, the department may, in its discretion, suspend the bidder/offeror for a period of time from entering into any contracts with the State of Montana.

FORCE MAJEURE: Neither party shall be responsible for failure to fulfill its obligations due to causes beyond its reasonable control, including without limitation, acts or omissions of government or military authority, acts of God, materials shortages, transportation delays, fires, floods, labor disturbances, riots, wars, terrorist acts, or any other causes, directly or indirectly beyond the reasonable control of the nonperforming party, so long as such party is using its best efforts to remedy such failure or delays.

HOLD HARMLESS/INDEMNIFICATION: The contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

LATE BIDS AND PROPOSALS: Regardless of cause, late bids and proposals will not be accepted and will automatically be disqualified from further consideration. It shall be solely the vendor's risk to ensure delivery at the designated office by the designated time. Late bids and proposals will not be opened and may be returned to the vendor at the expense of the vendor or destroyed if requested.

PAYMENT TERM: All payment terms will be computed from the date of delivery of supplies or services OR receipt of a properly executed invoice, whichever is later. Unless otherwise noted in the solicitation document, the State is allowed 30 days to pay such invoices. All contractors will be required to provide banking information at the time of contract execution in order to facilitate State electronic funds transfer payments.

RECIPROCAL PREFERENCE: The State of Montana applies a reciprocal preference against a vendor submitting a bid from a state or country that grants a residency preference to its resident businesses. A reciprocal preference is only applied to an invitation for bid for supplies or an invitation for bid for nonconstruction services for public works as defined in section 18-2-401(9), MCA, and then only if federal funds are not involved. For a list of states that grant resident preference, see http://gsd.mt.gov/ProcurementServices/preferences.mcpx.

REDUCTION OF FUNDING: The State must terminate this contract if funds are not appropriated or otherwise made available to support the State's continuation of performance in a subsequent fiscal period. (See section 18-4-313(4), MCA.)

REFERENCE TO CONTRACT: The contract or purchase order number MUST appear on all invoices, packing lists, packages, and correspondence pertaining to the contract.

REGISTRATION WITH THE SECRETARY OF STATE: Any business intending to transact business in Montana must register with the Secretary of State. Businesses that are incorporated in another state or

country, but which are conducting activity in Montana, must determine whether they are transacting business in Montana in accordance with sections 35-1-1026 and 35-8-1001, MCA. Such businesses may want to obtain the guidance of their attorney or accountant to determine whether their activity is considered transacting business.

If businesses determine that they are transacting business in Montana, they must register with the Secretary of State and obtain a certificate of authority to demonstrate that they are in good standing in Montana. To obtain registration materials, call the Office of the Secretary of State at (406) 444-3665, or visit their website at http://sos.mt.gov.

SEPARABILITY CLAUSE: A declaration by any court, or any other binding legal source, that any provision of the contract is illegal and void shall not affect the legality and enforceability of any other provision of the contract, unless the provisions are mutually dependent.

SHIPPING: Supplies shall be shipped prepaid, F.O.B. Destination, unless the contract specifies otherwise.

SOLICITATION DOCUMENT EXAMINATION: Vendors shall promptly notify the State of any ambiguity, inconsistency, or error which they may discover upon examination of a solicitation document.

TAX EXEMPTION: The State of Montana is exempt from Federal Excise Taxes (#81-0302402).

TECHNOLOGY ACCESS FOR BLIND OR VISUALLY IMPAIRED: Contractor acknowledges that no state funds may be expended for the purchase of information technology equipment and software for use by employees, program participants, or members of the public unless it provides blind or visually impaired individuals with access, including interactive use of the equipment and services, that is equivalent to that provided to individuals who are not blind or visually impaired. (Section 18-5-603, MCA.) Contact the State Procurement Bureau at (406) 444-2575 for more information concerning nonvisual access standards.

TERMINATION OF CONTRACT: Unless otherwise stated, the State may, by written notice to the contractor, terminate the contract in whole or in part at any time the contractor fails to perform the contract.

U.S. FUNDS: All prices and payments must be in U.S. dollars.

VENUE: This solicitation is governed by the laws of Montana. The parties agree that any litigation concerning this bid, request for proposal, limited solicitation, or subsequent contract, must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana, and each party shall pay its own costs and attorney fees. (Section 18-1-401, MCA.)

WARRANTIES: The contractor warrants that items offered will conform to the specifications requested, to be fit and sufficient for the purpose manufactured, of good material and workmanship, and free from defect. Items offered must be new and unused and of the latest model or manufacture, unless otherwise specified by the State. They shall be equal in quality and performance to those indicated herein. Descriptions used herein are specified solely for the purpose of indicating standards of quality, performance, and/or use desired. Exceptions will be rejected.

SECTION 1: GENERAL REQUIREMENTS

1.1 INTRODUCTION

The STATE OF MONTANA, Fish, Wildlife & Parks (hereinafter referred to as "the State") is soliciting bids for crushed base course gravel and Class I & II Rip Rap. A more complete description of the supplies and/or services sought is provided in Section 3 of this IFB. Bids submitted in response to this solicitation must comply with the instructions and procedures contained herein.

1.2 INSTRUCTIONS TO BIDDERS

1.2.1 Procurement Officer Contact Information. Contact information for the Montana Fish, Wildlife & Parks Contracting Officer is as follows:

Procurement Officer: Kari Shinn
Address: 930 Custer Avenue West, Helena, MT
Telephone Number: 406-495-3249
Fax Number: 406-495-3253
E-mail Address: kshinn@mt.gov

1.2.2 Examination of Solicitation Documents and Explanation to Bidders. Bidders are responsible for examining the solicitation documents and any addenda issued to become informed as to all conditions that might in any way affect the cost or performance of any work. Failure to do so will be at the sole risk of the bidder. Should the bidder find discrepancies in or omissions from the solicitation documents, or should their intent or meaning appear unclear or ambiguous, or should any other question arise relative to the solicitation documents, the bidder shall promptly notify the procurement officer in writing. The bidder making such request will be solely responsible for its timely receipt by the procurement officer. Replies to such notices may be made in the form of an addendum to the solicitation.

1.2.3 Interpretation or Representations. The State of Montana assumes no responsibility for any interpretation or representations made by any of its officers or agents unless interpretations or representations are incorporated into a formal written addendum to the solicitation.

1.2.4 Acknowledgment of Addendum. If the IFB is amended, then all terms and conditions which are not modified remain unchanged. It is the bidder's responsibility to keep informed of any changes to the solicitation. **Bidders must sign and return with their bid an Acknowledgment of Addendum for any addendum issued.** Bids that fail to include an Acknowledgment of Addendum may be considered nonresponsive.

1.2.5 Extension of Prices. In the case of error in the extension of prices in the bid, the unit price will govern. In a lot bid, the lot price will govern.

1.2.6 Bid Preparation Costs. The costs for developing and delivering responses to this IFB are entirely the responsibility of the bidder. The State is not liable for any expense incurred by the bidder in the preparation and presentation of their bid or any other costs incurred by the bidder prior to execution of a purchase order or contract.

1.3 BID SUBMISSION

1.3.1 Bids Must Be Sealed and Labeled. Bids must be sealed and labeled on the outside of the package to clearly indicate that they are in response to **IFB# 140265**. **It is the bidder's sole responsibility to ensure their bid is received at the Montana Fish, Wildlife & Parks, Purchasing, 930 Custer Avenue West, Helena prior to 2:00 p.m., local time, May 22, 2014. This includes any bids submitted using priority mailing**. All prices and notations must be printed in ink or typewritten. Errors should be crossed out, corrections entered, and initialed by the person signing the bid.

1.3.2 Late Bids. ***Regardless of cause, late bids will not be accepted and will automatically be disqualified from further consideration.*** It shall be the bidder's sole risk to assure delivery at the receptionist's desk at the designated office by the designated time. Late bids will not be opened and may be returned to the bidder at the expense of the bidder or destroyed if requested.

1.3.3 Bidder's Signature. The solicitation must be signed in ink by an individual authorized to legally bind the business submitting the bid. The bidder's signature on a bid in response to this IFB guarantees that the offer has been established without collusion and without effort to preclude the State of Montana from obtaining the best possible supply or service.

1.3.4 Alternate Bids. Vendors may submit alternate bids (a bid on supplies other than specified). Alternate bids are considered only if the vendor is the lowest responsible vendor on their primary bid. Bids must be clearly identified as "Primary" and "Alternate."

1.3.5 Descriptive Literature. Complete manufacturer's descriptive literature sufficient in detail to establish quality and compliance with all specifications must be submitted with each bid. The State reserves the right to examine products further to determine compliance with the stated specifications.

1.4 CHANGE OR WITHDRAWAL OF BIDS

1.4.1 Change or Withdrawal PRIOR to Bid Opening. Should any bidder desire to change or withdraw a bid prior to the scheduled opening, the bidder may do so by making such request in writing to the procurement officer listed in Section 1.2.1 above. This communication must be received prior to the date and hour of the bid opening by a request in writing or facsimile to the procurement officer (e-mail notices containing prices are not allowed and will be disqualified).

1.4.2 Change AFTER Bid Opening But Prior to Bid Award. After bids are opened, they may not be changed except to correct patently obvious mistakes and minor variations as allowed by ARM 2.5.505. The bidder shall submit verification of the correct bid to the State prior to the final award by the State.

1.5 BID AWARDS

1.5.1 Basis for Award. Bid award, if made, will be to the responsive and responsible bidder who offers the lowest cost to the State in accordance with the specifications set forth in the invitation for bid.

1.5.2 Rejection of Bids. While the State has every intention to award a contract as a result of this IFB, issuance of the IFB in no way constitutes a commitment by the State of Montana to award and execute a contract. Upon a determination such actions would be in its best interest, the State, in its sole discretion, reserves the right to:

- Cancel or terminate this IFB (18-4-307, MCA);
- Waive any undesirable, inconsequential, or inconsistent provisions of this IFB which would not have significant impact on any bid (ARM 2.5.505); or
- If awarded, terminate any contract if the State determines adequate state funds are not available (18-4-313, MCA).

SECTION 2: SPECIAL TERMS AND CONDITIONS

2.1 PURCHASING CARD

The State of Montana has a Purchasing Card Program in place that gives agencies the ability to charge purchases made from these contracts.

2.2 COMPLIANCE WITH WORKERS' COMPENSATION ACT

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with the sections 39-71-401, 39-71-405, and 39-71-417, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor exemption, or documentation of corporate officer status. Neither the Contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the Purchasing office of Fish, Wildlife & Parks, P.O. Box 200701, Helena, MT 59620-0701, upon expiration.

2.3 INSURANCE REQUIREMENTS

2.3.1 General Requirements. The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

2.3.2 Primary Insurance. The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

2.3.3 Specific Requirements for Commercial General Liability. The Contractor shall purchase and maintain occurrence coverage with combined single limits for bodily injury, personal injury, and property damage of **$300,000** per occurrence and **$600,000** aggregate per year to cover such claims as may be caused by any act, omission, or negligence of the Contractor or its officers, agents, representatives, assigns, or subcontractors.

2.3.4 Additional Insured Status. The State, its officers, officials, employees, and volunteers are to be covered and listed as additional insureds for liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations; premises owned, leased, occupied, or used.

2.3.5 Deductibles and Self-Insured Retentions. Any deductible or self-insured retention must be declared to and approved by the state agency. At the request of the agency either: (1) the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the State, its officers, officials, employees, and volunteers; or (2) at the expense of the Contractor, the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claims administration, and defense expenses.

2.3.6 Certificate of Insurance/Endorsements. Insurance must be placed with an insurer with a Best's rating of no less than A-. The certificate must also include the State's solicitation number. This insurance must be maintained for the duration of the contract. The State Procurement Bureau, P.O. Box 200135, Helena, MT 59620-0135, must receive all required certificates and endorsements within 10 days from the date of the Request for Documents notice before a contract or purchase order will be issued. Work may not commence until a contract or purchase order is in place. The Contractor must notify the State immediately of any material change in insurance coverage, such as changes in limits, coverage, change in status of policy, etc. The State reserves the right to require complete copies of insurance policies at all times.

2.4 CONTRACT TERMINATION

2.4.1 Termination for Cause. The State may, by written notice to the Contractor, terminate this contract in whole or in part at any time the Contractor fails to perform this contract.

2.4.2 Reduction of Funding. The State must terminate this contract if funds are not appropriated or otherwise made available to support the State's continuation of performance of this contract in a subsequent fiscal period. (See section 18-4-313(4), MCA.)

SECTION 3: SPECIFICATIONS AND PRICING SCHEDULE

3.0 EQUIVALENT PRODUCTS

Requirements designated in this bid must be satisfied, or a functional equivalent bid submitted, which is acceptable to the State. Bidders who do not meet this criterion may be disqualified from further consideration. A bidder must state if they are unable or unwilling to meet any requirement. Inability or unwillingness to meet any requirement, in part or total, may be cause for disqualification of the entire response. Any exceptions taken by the bidder must be clearly identified on the bid forms.

3.1 PRICES

3.1.1 Taxes, Shipping, and Invoicing. The prices herein specified, unless otherwise expressly stated, shall exclude all taxes and duties of any kind which either party is required to pay with respect to the sale of products covered by this IFB, but shall include all charges and expenses in connection with the packing of the products and their carriage to the place of delivery to the State unless specifically excluded. Bid prices shall include any and all transportation costs. The Contractor shall be paid, except as otherwise stated in this IFB, upon submission of a proper invoice, the prices stipulated herein for products, and/or services delivered to and accepted at the specified State location(s).

3.1.2 Price Adjustments Negotiated Based on Changes in Contractor's Costs. Price adjustments may be permitted at the time of contract renewal through a process of negotiation with the Contractor and the State. Any price increases must be based on demonstrated industrywide or regional increases in the Contractor's costs. Publications such as the Federal Bureau of Labor Statistics and the Consumer Price Index (CPI) for all Urban Consumers may be used to determine the increased value.

3.2 AS NEEDED AWARD

Awards will be made on an **as needed** basis. Orders will be placed as agency need arises. Failure of a bidder to provide prices for all line items listed on the Schedule may be cause for rejection of the entire bid. However, a bidder may enter "No Cost" in the unit price and extended amount columns to indicate that the item is being offered at "No Cost."

3.3 SPECIFICATIONS AND QUOTE PRICING SCHEDULE

Montana Fish, Wildlife & Parks is soliciting bids for 1.5 inch crushed base course gravel, see Attachment A (pages 13-18) for the specifications. Materials will be delivered to Makoshika State Park, 1301 Snyder Avenue, Glendive, MT 59330, see map for staging area (page 20). Also to be delivered is Class I & Class II Rip Rap, see Attachment A (page 19) for the specifications.

a. Successful bidder is to supply a written proctor analysis of the quoted gravel that meets the plan specifications.
b. Successful bidder is to supply a written sieve analysis of the quoted gravel that meets the plans specifications.

3.4 COST

Cost must include FOB delivery.

Quantity	Price Per Ton	Total Cost
1,510 Tons of Crushed Base Course Gravel:	_____	_____
114 Tons of Class I Rip Rap:	_____	_____
765 Tons of Class II Rip Rap:	_____	_____
Delivery Cost	_____	_____
Total Project Cost:		_____

Gravel must be delivered to Makoshika State Park by July 11, 2014.

FOB: Montana Fish, Wildlife & Parks, 1301 Snyder Avenue, Glendive, MT 59330. Must call before making delivery.

Award: Bid will be awarded to lowest bidder.

Bid Award:

Bids are due no later than 2:00 PM local time, May 22, 2014. Bids will not be accepted after this time. Bid will go to the vendor that has low bid and meets all the specifications listed on this solicitation.

NOTE TO VENDORS:

A) Failure to display invitation for bid FWP# 140265 and bid due date, May 22, 2014 on your sealed bid envelope will result in bid disqualification.

IFB Checklist

Have you remembered to:

- Check our website for the latest addendum to the IFB
- Sign each "Acknowledgment of Addendum" if required
- Sign your bid on our cover sheet
- Mark your mailing envelope or box with the IFB number and the opening date under your return address
- Carefully review the "Standard Terms and Conditions"
- Carefully review all listed requirements to ensure compliance with the IFB
- Initial all bid/pricing changes you made

Attachment A

SECTION 02235

CRUSHED BASE COURSE

PART 1: GENERAL

1.1 DESCRIPTION

A. This work is the placing of one or more base courses composed of crushed gravel, stone or other similar materials meeting the gradation and other quality criteria specified herein.

1.2 REFERENCES

AASHTO T11	Amount Finer than No. 200 (0.075 mm) Sieve in Aggregate
AASHTO T27	Sieve Analysis of Fine and Coarse Aggregates
AASHTO T89	Determining Liquid Limit of Soils
AASHTO T90	Determining the Plastic Limit and Plasticity Index of Soils
AASHTO T176	Sand Equivalent Value of Soils and Fine Aggregate
AASHTO T96	Resistance to Degradation By Abrasion and Impact in the Los Angeles Machine
AASHTO T99 (ASTM D698)	Moisture-density Relations of Soils and Soil-Aggregate Mixtures Using 5-lb (2.5 kg) Rammer and 12-Inch (305 mm) Drop
ASTM D5821	Determining the Percentage of Fractured Particles in Coarse Aggregate
AASHTO T191 (ASTM D1556)	Density of Soil In-Place By Sand Cone Method
AASHTO T310 (ASTM D6938)	In-Place density and water content of the soil and soil aggregate by Nuclear Method (Shallow Depth)

1.3 DENSITY CONTROL TESTING

A. Field Density Testing

1. Meet the quality control and quality assurance testing requirements in section 01400, Contractor Quality Control and Owner Quality Assurance.

2. In-place field density tests for quality assurance are at Owner expense meeting AASHTO T191 (ASTM D1556) Sand Cone method or AASHTOT310 (ASTM (D6938) Nuclear Densometer method. Quality

assurance field density testing frequency is at the discretion of the Engineer.

3. Retesting of failing areas is at the expense of the Contractor.

B. Laboratory Maximum Density and Optimum Moisture

1. Moisture density curves will be provided by the Contractor for each base material provided. These will be provided at the expense of the Contractor.

1.4 MATERIALS SUBMITTALS

1. Submit to the Engineer gradations, moisture density curves and other test results for sources to be used for base materials prior to delivery to the site for approval by the Engineer. . If recycled materials are proposed, CBR test data must be submitted to the Engineer to assure consistency with design requirements.

PART 2: PRODUCTS

2.1 GENERAL

A. Furnish aggregate base material meeting the applicable aggregate quality requirements.

2.2 CRUSHED BASE MATERIAL

A. Consists of both fine and coarse fragments of crushed stone or crushed gravel, and/or natural gravel, and when approved, blended with sand, finely crushed stone, crusher screenings, recycled concrete and/or asphalt or other similar materials.

B. Use crushed stone or gravel consisting of hard, durable particles of fragments of stone, free of excess of flat, elongated, soft or disintegrated pieces, dirt, or other deleterious matter, and having a percent of wear of not exceeding 50 at 500 revolutions when tested under AASHTO T96.

C. Crush material so that the percentage of fractured particles in the finished product is as constant and uniform as practical. Crush to produce material where at least 35 percent of the material retained on the No. 4 sieve has at least one fractured face.

D. Incorporate all material produced in the crushing operation and passing the No. 4 mesh sieve into the base material necessary to meet the gradation requirements.

2.3 GRADATION

A. As determined by AASHTO Methods T11 and T27, furnish material for the grading specified in the contract documents including binder or filler, which may have been added at the plant or at the site, meeting the requirements of that grading in the Table of Gradations below:

TABLE OF GRADATIONS

PERCENTAGES BY WEIGHT PASSING SQUARE MESH SIEVE

Passing	1 ½" Minus	1" Minus	¾" Minus
1 1/2 Inch	100		
1 Inch	—	100	
3/4 Inch	—	—	100
1/2 Inch	—	—	—
No. 4 Sieve	25 - 60	40 - 70	40 - 70
No. 10 Sieve	—	25 - 55	25 - 55
No. 200 Sieve	0 - 8	2 - 10	2 - 10

B. Up to 5% "oversized" material is permitted provided that the "oversized" material passes the screen size immediately larger than the top size specified. The produced material between the maximum screen opening and the No.4 sieve shall be reasonably well graded.

C. Suitability of the aggregate is based on samples obtained during placement in the project within limits allowed in the table for the particular grading specified.

D. That portion of the fine aggregate passing the No. 200 sieve must be less than 60 percent of that portion passing the No. 40 sieve.

E. The liquid limit for that portion of the fine aggregate passing a No. 40 sieve cannot exceed 25, nor the plasticity index exceed 6, as determined by AASHTO T89 and T90.

2.4 WATERING:

A. Use uncontaminated water.

PART 3: EXECUTION

3.1 GENERAL

A. Before placing the base course, smooth and shape the surface of the underlying subgrade, sub-base or base course to the cross section shown on the plans before placing the base course.

B. Do not place base course on a wet or muddy subgrade or sub-base course. Complete at least one area of finished and accepted subgrade, sub-base or underlying base before the placing of any base course.

3.2 PLACEMENT AND SPREADING

A. Mix and place the material in maximum 8 inches (20 centimeters) compacted layers unless otherwise approved. Deposit and spread each load of material on the prepared subgrade, or on a completed sub-base or base course layer continuously without interruption. Discontinue operating haul units over subgrade, or over any sub-base or base course completed if the haul units damage the subgrade, sub-base or base course.

B. Deposit and spread the material in a uniform layer, without segregation, to a loose depth so that when compacted, and making allowance for any filler to be blended on the road, the layer has the specified thickness.

C. Spread material using dump boards, spreader boxes, or vehicles equipped to distribute the material in a uniform layer. The material may be deposited in windrows mixed and spread as described below.

D. Construct each layer meeting these requirements. Blade smooth and thoroughly compact each layer as specified before placing the succeeding layer.

E. If segregation or moisture problems exist, or if the material was placed on the road in windrows, thoroughly blade-mix the material of the affected layer by alternately blading to the center and back to the edges of the street.

F. Uniformly add water, when required, on site and place in amounts required to compact the material as necessary to aid in densification and to limit segregation. Maintain an adequate water supply during the work. Assure the equipment used for watering is of the capacity and design to provide uniform water application.

G. Apply water during the work to control dust and to maintain the base course in a damp condition in accordance with Section 01500 under Dust Control.

H. Water required for compacting base gravel may be obtained from the municipal system if approved by the owner, or from other sources.

3.3 FIELD DENSITY REQUIREMENTS

A. Compact placed material the full width by rolling with suitable tamping equipment or power rollers. Correct all irregularities or depressions that develop during rolling by loosening the material in these places and adding or removing material, as required.

B. Perform blading and compacting alternately as required or directed, to maintain a smooth, even, uniformly compacted surface until the final inspection. Along curbs, headers, manholes, and similar structures, and at all places not accessible to the roller, compact the base course material with suitable mechanical tampers or hand tampers to reach the compaction requirements.

C. Provide the watering and rolling required to obtain a minimum field density of 95 percent of maximum dry density as determined by AASHTO T99. No separate compensation is made for rolling and watering the base course other than the base course bid item or items listed on the contract documents.

3.4 SURFACE TOLERANCES

A. The base course surface when finished and tested with a 10-foot (3.0 meter) straight edge placed on the surface with its center line parallel to the center line of the street, will not have a surface deviation from the straight edge exceeding 3/8-inch (1.0 centimeter). Additionally, the finished grade cannot deviate more than 0.05 feet (1.5 centimeters) at any point from the staked elevation, and further, the sum of the deviations from two points not more than 30 feet (9.0 meters) apart cannot exceed 0.05 feet (1.5 centimeters).

B. For base course receiving asphalt concrete surfacing, the finished grade cannot deviate more than 0.02 feet (0.6 centimeters) at any point from the staked elevations, and the sum of the deviations from two points not more than 30 feet (9.0 meters) apart cannot exceed 0.02 feet (0.6 centimeters).

C. If patching of the base course is necessary to meet the tolerances, perform patching using methods and aggregates approved by the Engineer. Payment for patching aggregate is at the unit price bid for the base course material.

PART 4: MEASUREMENT AND PAYMENT

4. 1 CUBIC YARD BASIS: CRUSHED BASE COURSE.

A. This item is measured and paid for by the cubic yards (cubic meters) of crushed base course of the gradations specified in the Contract documents, complete in place, at the contract unit price bid for _____"Minus Crushed Base Course". Price and payment is full compensation for furnishing, crushing, loading, hauling, spreading, shaping, watering and compacting the base course material, and for all tools, labor and incidentals necessary to complete this item.

B. Payment is made under:

1. _____" Minus Crushed Base Course - per cubic yard (cubic meters).

4. 2 SQUARE YARD BASIS: CRUSHED BASE COURSE.

A. This item is measured and paid for by the square yards (square meters) of crushed base course surface area for furnishing crushed base course of the thickness and gradations specified in the Contract documents, complete in place, at the contract unit price bid for_____" Thickness of _____" Minus Crushed Base Course". Price and payment is full compensation for furnishing, crushing, loading, hauling, spreading, shaping, watering and compacting the base course material, and for all tools, labor and incidentals necessary to complete this item.

B. Payment is made under:

1. _____" Thickness of _____" Minus Crushed Base Course - per square yard (square meter).

4. 3 LINEAR FOOT BASIS: CRUSHED BASE COURSE.

A. This item is measured and paid for by the linear feet (linear meters) of trench restored, measured along the trench centerline, with crushed base course of the gradations specified in the Contract documents, completed in place, at the contract unit price bid for_____" Minus Crushed Base Course". Price and payment is full compensation for furnishing, crushing, loading, hauling, spreading, shaping, blending, watering and compacting the base course material, and for all tools, labor and incidentals necessary to complete this item.

B. Payment is made under:

1. _____" Minus Crushed Base Course - per linear foot (linear meter).

END OF SECTION

701.06.2 Random Riprap

Furnish the specified random riprap meeting Table 701-19 requirements.

TABLE 701-19

TABLE OF GRADATIONS - RANDOM RIPRAP

CLASS	WEIGHT OF STONE	EQUIVALENT SPHERICAL DIAMETER[1]	% OF TOTAL WT THAT MUST BE SMALLER THAN GIVEN SIZE
I	100 pounds (45 kg) 60 pounds (27 kg) 25 pounds (11 kg) 2 pounds (0.90 kg)	1.05 feet (320 mm) 0.88 feet (270 mm) 0.66 feet (200 mm) 0.27 feet (80 mm)	100 70-90 40-60 0-10
II	700 pounds (318 kg) 500 pounds (227 kg) 200 pounds (91 kg) 20 pounds (9.0 kg)	2.00 feet (610 mm) 1.79 feet (545 mm) 1.32 feet (400 mm) 0.61 feet (190 mm)	100 70-90 40-60 0-10
III	2000 pounds (09 kg) 1400 pounds (35 kg) 700 pounds (318 kg) 40 pounds (18 kg)	2.82 feet (860 mm) 2.53 feet (770 mm) 2.00 feet (610 mm) 0.77 feet (235 mm)	100 70-90 40-60 0-10

Notes:

1. Based on unit weight of 165 pounds per cubic foot (2,675 kg/cubic meter).

701.06.3 Grouted Riprap

Furnish stone for grouted riprap meeting Subsection 701.06.2 requirements.

701.07 BANK PROTECTION

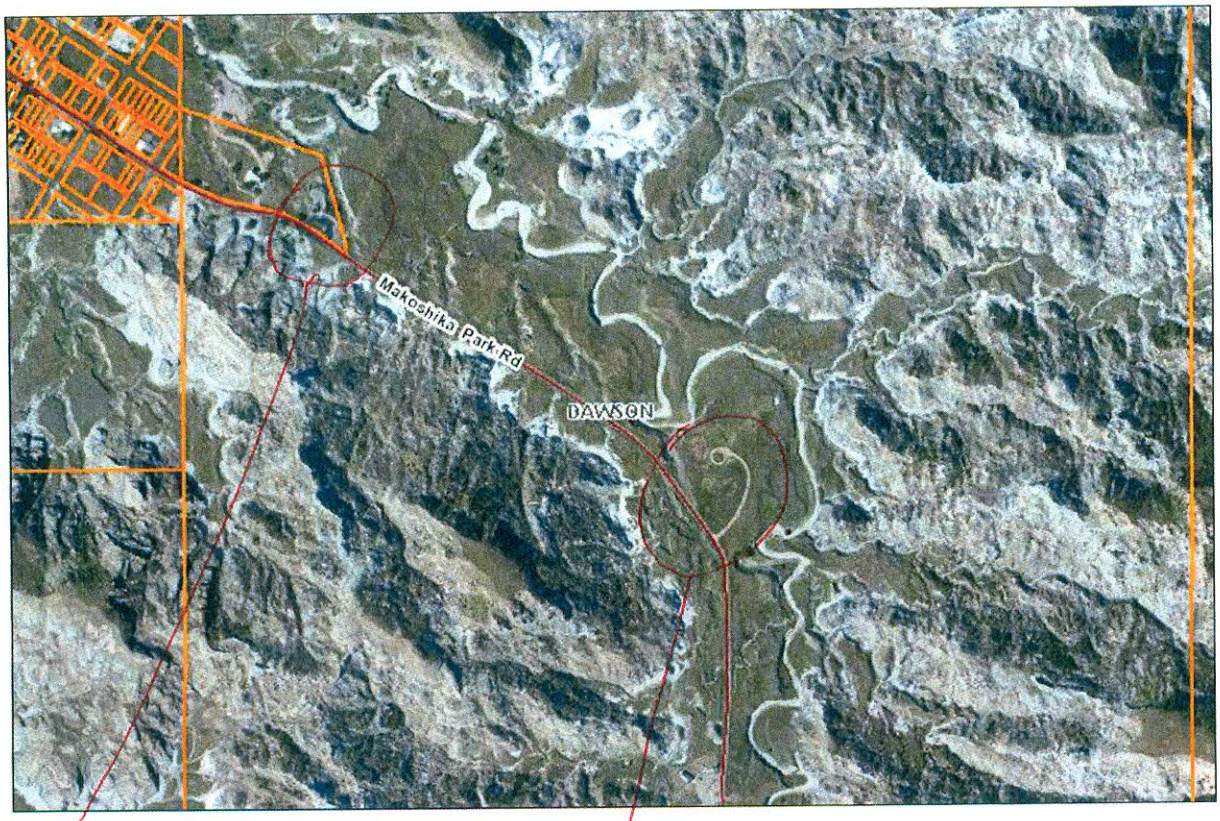
Furnish rock that is hard, dense, and durable. Use either quarried rock or natural coarse gravel. Rock may be obtained from adjacent roadway excavation. Do not use rock obtained from streambeds.

Furnish the specified bank protection meeting Table 701-20 requirements.

TABLE 701-20

SIZE REQUIREMENTS - BANK PROTECTION

TYPE	1	2	3	4
Nominal Thickness	24 inch (610mm)	18 inch (460 mm)	12 inch (305 mm)	Coarse gravel
Overall Thickness Including Bedding	30 inch (760mm)	24 inch (610 mm)	18 inch (460 mm)	As specified in the contract
Largest Rock Permissible	1/4 cubic yd. (0.19 m^3)	1/8 cubic yd. (0.09 m^3)	1 cubic ft. (0.03 m^3)	1/8 cubic ft. (0.003 m^3)
Smallest Rock Permissible	1/10 cubic ft. (0.003 m^3)	1/10 cubic ft. (0.003 m^3)	1-1/2" (40 mm)	3/16" (5 mm)



Makoshika State Park
Visiter Center

Location for Stockpiling
of Materials.