PROJECT MANUAL

DEHLER PARK NETTING UPGRADES

Prepared By: Second Nature Consulting, PLLC
Consultant Project No.: NA
Date: February 7, 2025

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SECTION 00100

INVITATION TO BID

Separate sealed bids for the upgrades of Dehler Park Netting will be received by the Billings City Clerk, 210 N. 27th Street, Billings, MT 59101, P.O. Box 1178, Billings, MT 59103, or bids@billingsmt.gov until 2:00 p.m. local time on Tuesday, March 4_, 2025__, and then publicly opened and read aloud. The bid opening will be via Facebook Live on the City's Facebook page: Billings MT City Government.

This project consists of the renovation of the existing backstop and upgrades to netting behind home plate and down the sidelines of both the first and third base lines. This shall include new poles, new cables, attachments, footings, demolition of existing flatwork and some concrete wall with repair and replacement of concrete work after installation of large netting poles and foundations. Shall include restoration to all damage completed to the grass, infield and irrigation system. Shall include all materials, labor, equipment and miscellaneous items to complete the installation. Awarded contractor shall provide stamped structural engineering drawings for the footing proposed with the project as part of the project with submittals.

Complete digital project bidding documents are available at Builders Exchange Billings You may download the digital plan documents for **A FEE.** In addition, the Drawings and Project Manual may also be examined at www.montanabid.com.

There will be a Pre-Bid Conference at _10am_____ o'clock on _____February 18th, 2025_on site at Dehler Park, Billings, MT. Interested CONTRACTORS are encouraged to attend. If you plan to attend, contact Brad Wright Project Manager to confirm location and parking.

CONTRACTOR and any of the CONTRACTOR'S subcontractors bidding or doing work on this project will be required to be registered with the Montana Department of Labor and Industry (DLI). Forms for registration are available from the Department of Labor and Industry, P.O. Box 8011, 1805 Prospect, Helena, Montana 59604-8011. Information on registration can be obtained by calling 1-406-444-7734. All laborers and mechanics employed by CONTRACTOR or subcontractors in performance of the construction work shall be paid wages at rates as may be required by the laws of Yellowstone County and the state of Montana. The CONTRACTOR must ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex or national origin.

Each bid or proposal must be accompanied by a Certified Check, Cashier's Check, or Bid Bond payable to the "City of Billings, MT" in an amount not less than ten percent (10%) of the total amount of the bid. Successful BIDDERS shall furnish an approved Performance Bond and a Labor and Materials Payment Bond, each in the amount of one hundred percent (100%) of the contract amount. Insurance as required shall be provided by the successful BIDDER(s) and a certificate(s) of that insurance shall be provided. Bids submitted via email shall have the bid bond scanned

and included with the bid. Bids submitted via mail or hand delivered shall have any of the bid securities included.

No bid may be withdrawn after the scheduled time for the public opening of bids, which is 2:00 p.m. local time, Tuesday, _March 4, 2025.

For further information concerning this project, please contact Brad Wright at the Billings Parks, Recreation, and Public Lands office, 390 North 23rd Street, Billings, MT 59101, or by telephone at (406) 413-5498 or by email at wrightr@billingsmt.gov.

The right is reserved to reject any or all proposals received, to waive informalities, to postpone the award of the contract for a period of not to exceed sixty (60) days, and to accept the lowest responsive and responsible bid which is in the best interest of the OWNER.

The City of Billings is an Equal Opportunity Employer.

Published on 2/7/2025, 2/14/2025, and 2/21/2025

Denise R. Bohlman
Billings City Clerk
P.O. Box 1178
Billings, MT 59103

Dept: Parks, Recreation, and Public Lands
Published: _____
_____
_____

SECTION 00200

INSTRUCTIONS TO BIDDERS

Instructions to Bidders per the Montana Public Works Standard Specifications, 6th Edition, as Modified by the City of Billings Standard Modifications and as modified below:

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

Revise 2.1 Complete sets of Bidding Documents may be obtained as stated in the Invitation to Bid.

Delete 2.3

ARTICLE 5 – PRE-BID CONFERENCE

Insert 5.2 The pre-bid meeting will be held on site at Dehler Park on Tuesday February 18th, at 10am, Billings, Montana. Contract project manager Brad Wright for further information or needs.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

Modify 7.1 Revise second sentence to read "Interpretations or clarifications considered necessary by Architect in response to such questions will be issued by Addenda. Addenda will be available at Builders Exchange Plan holders may download the Addenda at no additional cost**.** In addition, Addenda may also be examined at www.montanabid.com."

ARTICLE 13 – PREPARATION OF BID

Modify 13.1 Revise first sentence to read "The Bid Form is included with the Bidding Documents; additional copies are available at builders exchange."

Modify 13.11 Add after the first sentence: Montana Contractor's Registration is not required until project award.

Delete 13.12 in the City of Billings Standard Modifications (dated January 2021).

ARTICLE 15 – SUBMITTAL OF BID

Add to 15.1 Only Section 00300 Cover Page, Section 00300 Bid Form, and any bid securities are required to be submitted.

Add to 15.2 If submitting bid via regular mail, a cashier's check, Certified check or bid bond must be included. Bids can also be submitted via email. If using email, the bid must be submitted with a scanned copy of the bid bond. Hand delivered bids will be accepted.

Add to 15.3C. Telecommunication systems as used in this section does not include email.

ARTICLE 17 – OPENING OF BIDS

Insert 17.2 Bids will be opened on a live video broadcast on the City's Facebook page: Billings MT City Government. Bids will not be opened at a location that is open to the public.

ARTICLE 22 – STATE LAWS AND REGULATIONS

Modify 22.1 Delete reference to employment preference to Montana contractors and residents and contractor's registration.

BID SUBMITTAL PACKAGE

DEHLER PARK NETTING UPGRADES

BID SUBMITTED BY:

_____

THESE DOCUMENTS MUST BE EXECUTED FOR BID

[ ] BID FORM (COMPLETED)
[ ] ADDENDA (ACKNOWLEDGED IN BID FORM IF APPLICABLE)
[ ] 10% BID SECURITY (ENCLOSED)

- Bids submitted via email shall have the **bid bond** scanned and included with the bid. Emailed bids should be sent to bids@billingsmt.gov
- Bids submitted via mail or hand delivered shall have any of the bid securities included. Mailed bids should be sent to City of Billings, PO Box 1178, Billings, MT 59103.

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SECTION 00300

BID FORM

PROJECT IDENTIFICATION:
Dehler Park Netting Upgrades

9th Ave N, Billings, MT

CONTRACT IDENTIFICATION AND NUMBER:

Dehler Park Netting Upgrades

THIS BID SUBMITTED TO:

City of Billings bids@billingsmt.gov	or	City of Billings P.O. Box 1178 Billings, MT 59103	or	City of Billings 316 N 26th St Billings, MT 59101

1.01 The undersigned Bidder proposes and agrees if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents, to perform and furnish all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid, and Instructions to Bidders, including without limitations those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged:

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Special Provisions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazard Environmental Condition, if any, which has been identified in the Special Provisions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of the Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.

I. Bidder has given Architect written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Architect is acceptable to Bidder .

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

The Bidder certifies that no official of the Owner, Architect or any member of such officials immediate family, has direct or indirect interest in the pecuniary profits or Contracts of the Bidder.

5.01 The Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

UNIT PRICE SCHEDULE

Item No.	Description	Est. Qty	Unit	Unit Price	Total Price
1	Saw Cut Concrete Removal	LF			
2	New Concrete flatwork	SF			
3	Sod Repair	SF			

LUMP SUM BID

TOTAL LUMP SUM BASE BID PRICE$_____

(Figures)

TOTAL LUMP SUM BASE BID PRICE_____

(Words)

ALTERNATE #1 BID PRICE$_____

(Figures)

A. Unit Prices have been computed in accordance with paragraph 11.03.B. of the General Conditions.

B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

C. The undersigned agrees that the unit prices shall govern in checking the Bid, and should a discrepancy exist in the Total Estimated Price and Total Amount of Unit Prices Bid as listed above after extensions are checked and corrections made, if any, the Total Amount of Unit Prices Bid as corrected shall be used in awarding this Contract.

D. The OWNER reserves the right to reject any or all bids.

6.01 Bidder agrees that the Work will be substantially completed and competed and ready for final payment in accordance with 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

7.01 The following documents are attached to and made a condition of the Bid:

A. Required Bid security in the amount of 10% of the maximum Bid price including alternates, if any, and in the form identified in the Instructions To Bidders.

D. List other documents as pertinent. Geotechnical Report from Original Dehler Park Design and construction.

8.01 The terms used in this Bid with the initial capital letters have the meanings indicated in the Instructions To Bidders, General Conditions, and the Supplementary Conditions.

SUBMITTED on _____ , _____.
(Date)

Montana Contractor's Registration # (if any) _____

Montana Contractor's Gross Receipts Account # _____
(Example: XXXXXX-XXX-CGR)
Employer's Tax ID No. _____

If BIDDER is:

An Individual: _____
(Name typed or printed)
By: _____
(Individual's Signature)
Doing business as: _____

Business Address: _____

_____

Phone No.: _____ FAX No: _____

A Partnership: _____
(Partnership Name)
By: _____
(Signature)
_____
(Name, typed or printed)
Business Address: _____

_____

Phone No.: _____ FAX No: _____

A Corporation: _____

(Corporation Name)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability): _____

By: _____

(Signature of person authorized to sign)

Title: _____

Attest: _____

(Signature)

Business Address: _____

_____

Phone No.: _____ FAX No: _____

Date of Qualification To Do Business Is: _____

_____

(Corporate Seal)

A Joint Venture: Each Joint Venture Must Sign

Joint Venturer Name: _____

(Name)

By: _____

(Signature of Joint Venture Partner)

Name: _____

(Name, printed or typed)

Title: _____

Business Address: _____

_____

Phone No.: _____ FAX No: _____

Joint Venturer Name:_____
(Name)

By:_____
(Signature of Joint Venture Partner)

Name:_____
(Name, printed or typed)

Title:_____

Business Address:_____

_____

Phone No.:_____FAX No: _____

Address of Joint Venture for Receipt of Official Communication:
Address:_____

_____

Phone No.:_____FAX No: _____

(Each Joint Venture must sign. The manner of signing for each individual, partnership and corporation that is a party to the joint venture should be in the manner indicated above.)

END OF SECTION

BID BOND

CONTRACTOR INSERT BID BOND HERE AND REMOVE THIS PAGE

SECTION 00500

AGREEMENT FORM

This Agreement is dated as of _____, by and between "City of Billings," hereinafter called Owner, and _____, hereinafter called Contractor. Owner and Contractor, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:
This renovation of the existing backstop and upgrades to netting behind home plate and down the sidelines of both the first and third base lines. This shall include new poles, new cables, netting, foundations for large poles, small pole attachments, demolition and removal of existing backstop netting and 4" dia poles and top rail, demolition of existing flatwork and some concrete wall with repair and replacement of concrete work after installation of large netting poles and foundations. Shall include restoration to all damage completed to the grass, infield and irrigation system. Shall include all materials, labor, equipment and miscellaneous items to complete the installation. Awarded contractor shall provide stamped structural engineering drawings for the footing proposed with the project as part of the project with submittals.

Article 2. THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:
This project consists of the renovation of the existing backstop netting system to include new backstop netting and upgrades to the system down the foul lines. The work shall include all restoration based upon installation of poles and foundations, either from the grass field or from the concrete plaza areas. Also shall include all materials, equipment, labor and miscellaneous items for the full install of the netting project.

Article 3. ENGINEER/ARCHITECT

3.01 The Project has been designed by: Second Nature Consulting, PLLC who is hereinafter called Architect and who is to act as Owner's representative, assume all duties and responsibilities and have the rights and authority assigned to Architect in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

Article 4. CONTRACT TIME

4.01 Time of the Essence.

A. All the time limits for milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to achieve Substantial and Final Completion.

A. The Work at all locations shall be substantially complete within _____ days after the date when the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions.

B. Final completion of the Work shall be within _____ days after the date of Substantial Completion.

4.03 Liquidated damages.

A. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner dollars ($__500_____) for each day that expires after the time specified in paragraph 4.02 for Substantial Completion until the Work is substantially complete and __$500_____ dollars ($_____) for each day that expires after the time specified in paragraph 4.02 for Final completion. The liquidated damages specified herein include unscheduled employment.

Article 5. CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the work in accordance with the Contract Documents an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the quantity of that item that is constructed and accepted. Unit prices are those listed in the Unit Price Schedule of the Bid Form attached to this Agreement. Estimated quantities used for bidding purposes are not guaranteed. Payment will be for actual quantities as determined by Architect in accordance with Paragraph 9.07 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

Article 6. PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments:

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Architect as provided in the Contract Documents.

6.02 Progress Payments; Retainage:

A. Owner shall make progress payments in accordance with Article 14 of the General Conditions on account of the Contract Price on the basis of Contractor's Applications for Payment as recommended by Architect , once each month during construction as provided below. All

progress payments will be on the basis of the progress of the Work measured by the number of units of each bid item completed times the bid unit price in the Unit Price Schedule of the Bid Form for that item or for lump sum bid items payment will be made on the percentage of actual work complete based on the schedule of values break down for the lump sum bid item.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the sum of the unit price items less the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Architect may determine or Owner may withhold, in accordance with paragraph 14.02 of the General Conditions.

    a. The Owner shall retain five percent (5%) of the amount of each payment until final completion and acceptance of all Work covered by the Contract Documents.

    b. Retainage will be five percent (5%) of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to Owner as provided in paragraph 14.02 of the General Conditions).

    c. In accordance with Title 15, Chapter 50, MCA, the Owner shall withhold, in addition to other amounts withheld as provided by law or specified herein, one percent (1%) of all payments due the Contractor and shall transmit such monies to the Montana Department of Revenue.

2. Upon Substantial Completion and at the Owner's discretion, the amount of retainage may be further reduced if requested by the Contractor.

6.03 Final Payment:

A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Architect as provided in said paragraph 14.07.

Article 7. INTEREST:

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at a rate of up to 1% per month.

Article 8. CONTRACTOR'S REPRESENTATION:

8.01 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents (including all Addenda) listed in paragraph 9 and the other related data identified in the Bidding Documents

B. Contractor has visited the site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, performance or furnishing of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Special Provisions as provided in paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Special Provisions as provided in paragraph 4.06 of the General Conditions. Contractor acknowledges that such reports and drawings are not Contract Documents and may not be complete for Contractor's purposes. Contractor acknowledges that Owner and Architect do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site.

E. Contractor has obtained and carefully studied (or assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise, which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor including applying the specific means, methods, techniques, sequences and procedures of construction, if any, expressly required by the Contract Documents to be employed by the Contractor, and safety precautions and programs incident thereto.

F. Contractor does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the site that relates to the Work as indicated in the Contract Documents.

H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

I. Contractor has given Architect written notice of all conflicts, errors, ambiguities or discrepancies that Contractor has discovered in the Contract Documents and the written resolution thereof by Architect is acceptable to Contractor.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 9. CONTRACT DOCUMENTS:

9.01 Contents

A. The Contract Documents consist of the following:
   1. This Agreement (Pages 1 to , inclusive);
   2. Performance Bond (pages 1 to , inclusive);

3. Payment Bond (pages 1 to , inclusive);
4. Other Bonds (pages 1 to , inclusive);
    a. (pages to , inclusive);
    b. (pages to , inclusive);
    c. (pages to , inclusive);
5. General Conditions (pages 1 to , inclusive);
6. Supplementary Conditions (pages 1 to , inclusive);

8. Specifications as listed in the table of contents of the Project Manual;
9. Drawings consisting of a cover sheet and sheets numbered ___ through __ with each sheet bearing the following general title: Dehler Park Netting Upgrades _____ _____;
10. Addenda (Numbers _____to _____, inclusive);
11. Exhibits to this Agreement (enumerated as follows):
    a. Notice To Proceed (pages 1 to ___ , inclusive);
    b. Contractor's Bid (pages _____ to ____, inclusive);
    c. Documentation submitted by Contractor prior to Notice of Award (pages_____ to _____, inclusive);
    d. Notice of Award
12. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
    a. Written Amendments;
    b. Work Change Directives;
    c. Change Order(s).
    d. Any Notice of Partial Utilization
    e. Notice of Substantial Completion
    f. Lien Waivers
    g. Notice of Final Completion and Acceptance
13. Certificates of Insurance
14. Wage Rates
15. Special Provisions (Section 00900 of Std Mods and project specific)
16. Montana Public Works Standard Specifications, Sixth Edition, dated April 2010, including the City of Billings Standard Modifications thereof.

B. The documents listed in paragraph 9.01.A. are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.04 of the General Conditions.

Article 10. MISCELLANEOUS:

10.01 Terms.

A. Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract.

A. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically, but without limitation, moneys that may come due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. Owner and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision of part of the Contract Documents held to be void or unenforceable under and Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed copies of Agreement. Documents have been signed or identified by Owner and Contractor or by Architect on their behalf.

This Agreement will be effective on _____ (which is the effective date of the Agreement).

This Agreement shall not be effective unless and until concurred by Funding Agency's (if any) designated representative.

City of Billings

By _____
William A. Cole, Mayor

Attest _____
Denise R. Bohlman, City Clerk

Approved as to form _____
City Attorney

Address for giving notices:
3166 N 26th Street
Billings, MT 59101

Phone No. (406) 657-8231

FAX No. (406) 237-6291

Contractor _____

By _____
(Signature)

Attest _____
(Signature)

Address for giving notices:
_____

_____

Phone No. _____

FAX No. _____

(CORPORATE SEAL)

(If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Owner - Contractor Agreement.

(SEAL)

Contractor Registration No.

Agent for service of process:

_____

_____
(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Owner's Designated Representative:	Contractor's Designated Representative:
Name: Brad Wright, Project Manager	Name:
Title: Project Manager	Title:
Address: 390 North 23rd Street	Address:
Billings, MT 59101	
Phone No.: (406) 413-5489	Phone No.:
FAX No.: (406) 237-6291	FAX No.:

AGENCY CONCURANCE:

As lender or insurer of funds to defray the costs of this Contract, and without liability for any payments thereunder, the Agency hereby concurs in the form, content, and execution of this Agreement.

By: _____
(Agency Official's Signature)

Title: _____

Date: _____

END OF SECTION

MONTANA STATEWIDE PREVAILING WAGE RATES

MONTANA
PREVAILING WAGE RATES FOR BUILDING CONSTRUCTION SERVICES 2025

Effective: January 11, 2025

Greg Gianforte, Governor
State of Montana

Sarah Swanson, Commissioner
Department of Labor & Industry

To obtain copies of prevailing wage rate schedules, or for information relating to public works projects and payment of prevailing wage rates, visit ESD at erd.dli.mt.gov/labor-standards or contact:

Employment Standards Division
Montana Department of Labor and Industry
P. O. Box 8011
Helena, MT 59604
Phone 406-444-6543

The department welcomes questions, comments, and suggestions from the public. In addition, we'll do our best to provide information in an accessible format, upon request, in compliance with the Americans with Disabilities Act.

MONTANA PREVAILING WAGE REQUIREMENTS

The Commissioner of the Department of Labor and Industry, in accordance with Sections 18-2-401 and 18-2-402 of the Montana Code Annotated (MCA), has determined the standard prevailing rate of wages for the occupations listed in this publication.

The wages specified herein control the prevailing rate of wages for the purposes of Section 18-2-401, et seq., MCA. It is required each employer pay (as a minimum) the rate of wages, including fringe benefits, travel allowance, zone pay and per diem applicable to the district in which the work is being performed as provided in the attached wage determinations.

All Montana Prevailing Wage Rates are available on the internet at https://erd.dli.mt.gov/labor-standards/state-prevailing-wage-rates or by contacting the department at (406) 444-6543.

In addition, this publication provides general information concerning compliance with Montana's Prevailing Wage Law and the payment of prevailing wages. For detailed compliance information relating to public works contracts and payment of prevailing wage rates, please consult the regulations on the internet at erd.dli.mt.gov/labor-standards or contact the department at (406) 444-6543.

SARAH SWANSON
Commissioner
Department of Labor and Industry
State of Montana

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A. Date of Publication January 13, 2025

B. Definition of Building Construction

For the purposes of Prevailing Wage, the Commissioner of Labor and Industry has determined that building construction occupations are defined to be those performed by a person engaged in a recognized trade or craft, or any skilled, semi-skilled, or unskilled manual labor related to the construction, alteration, or repair of a public building or facility, and does not include engineering, superintendence, management, office or clerical work.

The Administrative Rules of Montana (ARM), 24.17.501(2) – 2(c), states *"Building construction projects generally are the constructions of sheltered enclosures with walk-in access for housing persons, machinery, equipment, or supplies. It includes all construction of such structures, incidental installation of utilities and equipment, both above and below grade level, as well as incidental grading, utilities and paving.*

Examples of building construction include, but are not limited to, alterations and additions to buildings, apartment buildings (5 stories and above), arenas (closed), auditoriums, automobile parking garages, banks and financial buildings, barracks, churches, city halls, civic centers, commercial buildings, court houses, detention facilities, dormitories, farm buildings, fire stations, hospitals, hotels, industrial buildings, institutional buildings, libraries, mausoleums, motels, museums, nursing and convalescent facilities, office buildings, out-patient clinics, passenger and freight terminal buildings, police stations, post offices, power plants, prefabricated buildings, remodeling buildings, renovating buildings, repairing buildings, restaurants, schools, service stations, shopping centers, stores, subway stations, theaters, warehouses, water and sewage treatment plants (buildings only), etc."

C. Definition of Public Works Contract

Section 18-2-401(11)(a), MCA defines "public works contract" as *"…a contract for construction services let by the state, county, municipality, school district, or political subdivision or for nonconstruction services let by the state, county, municipality, or political subdivision in which the total cost of the contract is in excess of $25,000…"*.

D. Prevailing Wage Schedule

This publication covers only Building Construction occupations and rates. These rates will remain in effect until superseded by a more current publication. Current prevailing wage rate schedules for Heavy Construction, Highway Construction, and Nonconstruction Services occupations can be found on the internet at https://erd.dli.mt.gov/labor-standards/state-prevailing-wage-rates/ or by contacting the department at (406) 444-6543.

E. Rates to Use for Projects

ARM, 24.17.127(1)(c), states *"The wage rates applicable to a particular public works project are those in effect at the time the bid specifications are advertised."*

F. Wage Rate Adjustments for Multiyear Contracts

Section 18-2-417, MCA states:

"(1) Any public works contract that by the terms of the original contract calls for more than 30 months to fully perform must include a provision to adjust, as provided in subsection (2), the standard prevailing rate of wages to be paid to the workers performing the contract.

(2) The standard prevailing rate of wages paid to workers under a contract subject to this section must be adjusted 12 months after the date of the award of the public works contract. The amount of the adjustment must be a 3% increase. The adjustment must be made and applied every 12 months for the term of the contract.

(3) Any increase in the standard rate of prevailing wages for workers under this section is the sole responsibility of the contractor and any subcontractors and not the contracting agency."

G. Fringe Benefits

Section 18-2-412, MCA states:

"(1) To fulfill the obligation…a contractor or subcontractor may:

(a) pay the amount of fringe benefits and the basic hourly rate of pay that is part of the standard prevailing rate of wages directly to the worker or employee in cash;

(b) make an irrevocable contribution to a trustee or a third person pursuant to a fringe benefit fund, plan, or program that meets the requirements of the Employee Retirement Income Security Act of 1974 or that is a bona fide program approved by the U. S. department of labor; or

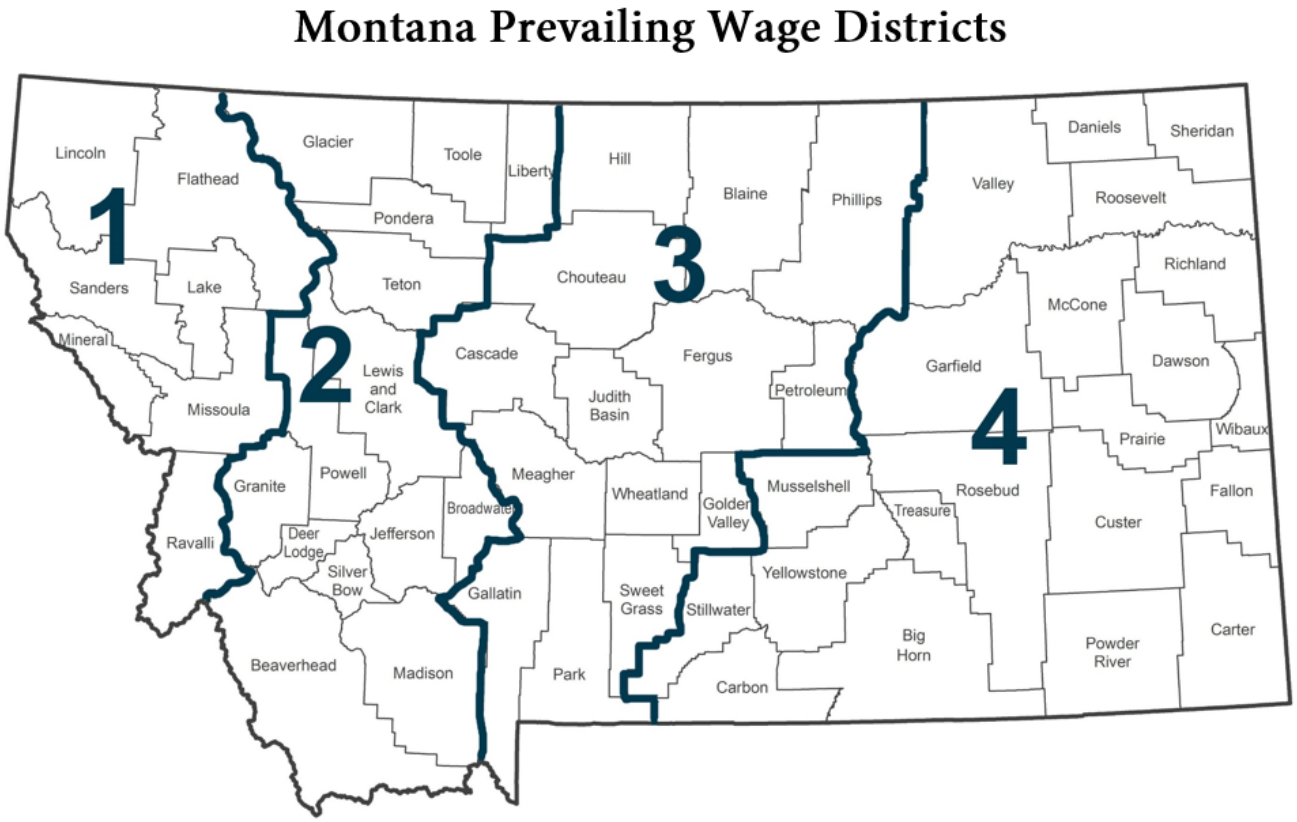
(c) make payments using any combination of methods set forth in subsections (1)(a) and (1)(b) so that the aggregate of payments and contributions is not less than the standard prevailing rate of wages, including fringe benefits and travel allowances, applicable to the district for the particular type of work being performed.

(2) The fringe benefit fund, plan, or program described in subsection (1)(b) must provide benefits to workers or employees for health care, pensions on retirement or death, life insurance, disability and sickness insurance, or bona fide programs that meet the requirements of the Employee Retirement Income Security Act of 1974 or that are approved by the U. S. department of labor."

Fringe benefits are paid for all hours worked (straight time and overtime hours). However, fringe benefits are not to be considered a part of the hourly rate of pay for calculating overtime, unless there is a collectively bargained agreement in effect that specifies otherwise.

H. Prevailing Wage Districts

Montana counties are aggregated into 4 districts for the purpose of prevailing wage. The prevailing wage districts are composed of the following counties:



I. Dispatch City

ARM, 24.17.103(11), defines dispatch city as *"...the courthouse in the city from the following list which is closest to the center of the job: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, Miles City, Missoula and Sidney."* A dispatch city shall be considered the point of origin only for jobs within the counties identified in that district (as shown below):

District 1 – Kalispell and Missoula: includes Flathead, Lake, Lincoln, Mineral, Missoula, Ravalli, and Sanders;
District 2 – Butte and Helena: includes Beaverhead, Broadwater, Deer Lodge, Glacier, Granite, Jefferson, Lewis and Clark, Liberty, Madison, Pondera, Powell, Silver Bow, Teton, and Toole;
District 3 – Bozeman and Great Falls: includes Blaine, Cascade, Chouteau, Fergus, Gallatin, Golden Valley, Hill, Judith Basin, Meagher, Park, Petroleum, Phillips, Sweet Grass, and Wheatland;
District 4 – Billings, Miles City and Sidney: includes Big Horn, Carbon, Carter, Custer, Daniels, Dawson, Fallon, Garfield, McCone, Musselshell, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Stillwater, Treasure, Valley, Wibaux, and Yellowstone.

J. Zone Pay

Zone pay is not travel pay. ARM, 24.17.103(25), defines zone pay as *"...an amount added to the base pay; the combined sum then becomes the new base wage rate to be paid for all hours worked on the project. Zone pay must be determined by measuring the road miles one way over the shortest practical maintained route from the dispatch city to the center of the job."* See section I above for a list of dispatch cities.

K. Computing Travel Benefits

ARM, 24.17.103(23), states *" 'Travel pay,' also referred to as 'travel allowance,' is and must be paid for travel both to and from the job site, except those with special provisions listed under the classification. The rate is determined by measuring the road miles one direction over the shortest practical maintained route from the dispatch city or the employee's home, whichever is closer, to the center of the job."* See section I above for a list of dispatch cities.

L. Per Diem

ARM, 24.17.103(19), states *" 'Per diem' typically covers costs associated with board and lodging expenses. Per diem is paid when an employee is required to work at a location outside the daily commuting distance and is required to stay at that location overnight or longer."*

M. Apprentices

Wage rates for apprentices registered in approved federal or state apprenticeship programs are contained in those programs. Additionally, Section 18-2-416(2), MCA states *"...The full amount of any applicable fringe benefits must be paid to the apprentice while the apprentice is working on the public works contract."* Apprentices not registered in approved federal or state apprenticeship programs will be paid the appropriate journey level prevailing wage rate when working on a public works contract.

N. Posting Notice of Prevailing Wages

Section 18-2-406, MCA provides that contractors, subcontractors and employers who are *"...performing work or providing construction services under public works contracts, as provided in this part, shall post in a prominent and accessible site on the project or staging area, not later than the first day of work and continuing for the entire duration of the project, a legible statement of all wages and fringe benefits to be paid to the employees."*

O. Employment Preference

Sections 18-2-403 and 18-2-409, MCA requires contractors to give preference to the employment of bona fide Montana residents in the performance of work on public works contracts.

P. Projects of a Mixed Nature

Section 18-2-418, MCA states:

"(1) The contracting agency shall determine, based on the preponderance of labor hours to be worked, whether the public works construction services project is classified as a highway construction project, a heavy construction project, or a building construction project.

(2) Once the project has been classified, employees in each trade classification who are working on that project must be paid at the rate for that project classification"

Q. Occupations Definitions

You can find definitions for these occupations on the following Bureau of Labor Statistics website:
http://www.bls.gov/oes/current/oes_stru.htm

R. Welder Rates

Welders receive the rate prescribed for the craft performing an operation to which welding is incidental.

S. Foreman Rates

Rates are no longer set for foremen. However, if a foreman performs journey level work, the foreman must be paid at least the journey level rate.

WAGE RATES

BOILERMAKERS

No Rate Established

Duties Include:
Construct, assemble, maintain, and repair stationary steam boilers, boiler house auxiliaries, process vessels, and pressure vessels.

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BRICK, BLOCK, AND STONE MASONS

	Wage	Benefit
District 1	$33.81	$18.06
District 2	$33.81	$18.06
District 3	$33.81	$18.06
District 4	$33.81	$18.06

Travel:
All Districts
0-70 mi. free zone
>70-90 mi. $60.00/day
>90 mi. $80.00/day

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CARPENTERS

	Wage	Benefit
District 1	$30.24	$14.33
District 2	$30.24	$14.33
District 3	$30.24	$14.33
District 4	$30.24	$14.33

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

Duties Include:
Install roll and batt insulation, and hardwood floors.

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CARPET INSTALLERS

No Rate Established

Duties Include:
Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials.

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CEMENT MASONS AND CONCRETE FINISHERS

	Wage	Benefit
District 1	$37.54	$17.04
District 2	$37.54	$17.04
District 3	$37.54	$17.04
District 4	$26.39	$17.04

Duties Include:
Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, or curbs. Align forms for sidewalks, curbs, or gutters.

Travel and Per Diem:
All Districts
0-30 mi free zone
30-60 mi base pay+2.95/hr.
>60 mi base pay+4.75/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 1

	Wage	Benefit
District 1	$27.20	$15.20
District 2	$30.03	$13.63
District 3	$32.36	$13.38
District 4	$32.36	$13.15

This group includes but is not limited to:
Air Compressor; Auto Fine Grader; Belt Finishing; Boring Machine (Small); Cement Silo; Crane, A-Frame Truck Crane; Crusher Conveyor; DW-10, 15, and 20 Tractor Roller; Farm Tractor; Forklift; Form Grader; Front-End Loader, under 1 cu. yd; Oiler, Herman Nelson Heater; Mucking Machine; Oiler, All Except Cranes/Shovels; Pumpman.

Travel Pay
District 1
0-45 mi. free zone
>45-85 mi. $60.00/day
>85 mi. $90.00/day

Zone Pay
District 2
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

Districts 3 and 4
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 2

	Wage	Benefit
District 1	$30.82	$13.55
District 2	$31.76	$13.42
District 3	$31.40	$14.15
District 4	$28.60	$11.70

This group includes but is not limited to:
Air Doctor; Backhoe\Excavator\Shovel, up to and incl. 3 cu. yds; Bit Grinder; Bitunimous Paving Travel Plant; Boring Machine, Large; Broom, Self-Propelled; Concrete Travel Batcher; Concrete Float & Spreader; Concrete Bucket Dispatcher; Concrete Finish Machine; Concrete Conveyor; Distributor; Dozer, Rubber-Tired, Push, & Side Boom; Elevating Grader\Gradall; Field Equipment Serviceman; Front-End Loader, 1 cu. yd up to and incl. 5 cu. yds; Grade Setter; Heavy Duty Drills, All Types; Hoist\Tugger, All; Hydralift Forklifts & Similar; Industrial Locomotive; Motor Patrol (except finish); Mountain Skidder; Oiler, Cranes\Shovels; Pavement Breaker, EMSCO; Power Saw, Self-Propelled; Pugmill; Pumpcrete\Grout Machine; Punch Truck; Roller, other than Asphalt; Roller, Sheepsfoot (Self-Propelled); Roller, 25 tons and over; Ross Carrier; Rotomill, under 6 ft; Trenching Machine; Washing /Screening Plant.

Travel Pay
District 1
0-45 mi. free zone
>45-85 mi. $60.00/day
>85 mi. $90.00/day

Zone Pay
District 2
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

Districts 3 and 4
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 3

	Wage	Benefit
District 1	$33.45	$12.53
District 2	$33.40	$13.65
District 3	$34.16	$13.82
District 4	$31.51	$13.88

This group includes but is not limited to:
Asphalt Paving Machine; Asphalt Screed; Backhoe\Excavator\Shovel, over 3 cu. yds; Cableway Highline; Concrete Batch Plant; Concrete Curing Machine; Concrete Pump; Cranes, Creter; Cranes, Electric Overhead; Cranes, 24 tons and under; Curb Machine\Slip Form Paver; Finish Dozer; Front-End Loader, over 5 cu. yds; Mechanic\Welder; Pioneer Dozer; Roller Asphalt (Breakdown & Finish); Rotomill, over 6 ft; Scraper, Single, Twin, or Pulling Belly-Dump; YO-YO Cat Haul Truck, Articulating Trucks, Vac Truck.

Travel Pay
District 1
0-45 mi. free zone
>45-85 mi. $60.00/day
>85 mi. $90.00/day

Zone Pay
Districts 2 - 4
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 4

	Wage	Benefit
District 1	$35.67	$13.45
District 2	$35.67	$13.75
District 3	$34.23	$14.31
District 4	$35.67	$14.34

This group includes but is not limited to:
Asphalt\Hot Plant Operator; Cranes, 25 tons up to and incl. 44 tons; Crusher Operator; Finish Motor Patrol; Finish Scraper.

Travel Pay
District 1
0-45 mi. free zone
>45-85 mi. $60.00/day
>85 mi. $90.00/day

Zone Pay
Districts 2 - 4
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 5

	Wage	Benefit
District 1	$35.05	$14.76
District 2	$36.77	$14.95
District 3	$36.77	$15.02
District 4	$36.77	$15.11

This group includes but is not limited to:
Cranes, 45 tons up to and incl. 74 tons.

Travel Pay
District 1
0-45 mi. free zone
>45-85 mi. $60.00/day
>85 mi. $90.00/day

Zone Pay
Districts 2 - 4
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 6

	Wage	Benefit
District 1	$37.86	$16.50
District 2	$37.86	$16.50
District 3	$37.86	$16.50
District 4	$37.20	$16.55

This group includes but is not limited to:
Cranes, 75 tons up to and incl. 149 tons; Cranes, Whirley (All).

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 7

	Wage	Benefit
District 1	$38.96	$16.35
District 2	$38.96	$16.31
District 3	$38.96	$16.50
District 4	$38.96	$16.31

This group includes but is not limited to:
Cranes, 150 tons up to and incl. 250 tons; Cranes, over 250 tons—add $1.00 for every 100 tons over 250 tons; Crane, Tower (All); Crane Stiff-Leg or Derrick; Helicopter Hoist.

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $3.50/hr.
>60 mi. base pay + $5.50/hr.

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CONSTRUCTION LABORERS GROUP 1/FLAG PERSON FOR TRAFFIC CONTROL

	Wage	Benefit
District 1	$24.55	$12.00
District 2	$24.55	$12.00
District 3	$24.55	$12.00
District 4	$24.55	$12.00

Zone Pay:
All Districts
0-15 mi. free zone
>15-30 mi. base pay + $0.65/hr.
>30-50 mi. base pay + $0.85/hr.
>50 mi. base pay + $1.25/hr.

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CONSTRUCTION LABORERS GROUP 2

	Wage	Benefit
District 1	$22.44	$7.71
District 2	$24.72	$11.38
District 3	$28.46	$12.00
District 4	$24.43	$9.44

This group includes but is not limited to:
General Labor; Asbestos Removal; Burning Bar; Bucket Man; Carpenter Tender; Caisson Worker; Cement Mason Tender; Cement Handler (dry); Chuck Tender; Choker Setter; Concrete Worker; Curb Machine-lay Down; Crusher and Batch Worker; Heater Tender; Fence Erector; Landscape Laborer; Landscaper; Lawn Sprinkler Installer; Pipe Wrapper; Pot Tender;
Powderman Tender; Rail and Truck Loaders and Unloaders; Riprapper; Sign Erection; Guardrail and Jersey Rail; Spike Driver; Stake Jumper; Signalman; Tail Hoseman; Tool Checker and Houseman and Traffic Control Worker.

Zone Pay:
All Districts
0-15 mi. free zone
>15-30 mi. base pay + $0.65/hr.
>30-50 mi. base pay + $0.85/hr.
>50 mi. base pay + $1.25/hr.

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CONSTRUCTION LABORERS GROUP 3

	Wage	Benefit
District 1	$25.55	$12.00
District 2	$25.55	$12.00
District 3	$25.55	$12.00
District 4	$25.55	$12.00

This group includes but is not limited to:
Concrete Vibrator; Dumpman (Grademan); Equipment Handler; Geotextile and Liners; High-Pressure Nozzleman; Jackhammer (Pavement Breaker) Non-Riding Rollers; Pipelayer; Posthole Digger (Power); Power Driven Wheelbarrow; Rigger; Sandblaster; Sod Cutter-Power and Tamper.

Zone Pay:
All Districts
0-15 mi. free zone
>15-30 mi. base pay + $0.65/hr.
>30-50 mi. base pay + $0.85/hr.
>50 mi. base pay + $1.25/hr.

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CONSTRUCTION LABORERS GROUP 4

	Wage	Benefit
District 1	$26.48	$11.57
District 2	$25.60	$12.00
District 3	$25.60	$12.00
District 4	$25.60	$12.00

This group includes but is not limited to:
Hod Carrier***; Water Well Laborer; Blaster; Wagon Driller; Asphalt Raker; Cutting Torch; Grade Setter; High-Scaler; Power Saws (Faller & Concrete) Powderman; Rock & Core Drill; Track or Truck Mounted Wagon Drill and Welder incl. Air Arc.

Zone Pay:
All Districts
0-15 mi. free zone
>15-30 mi. base pay + $0.65/hr.
>30-50 mi. base pay + $0.85/hr.
>50 mi. base pay + $1.25/hr.

***Hod Carriers will receive the same amount of travel and/or subsistence pay as bricklayers when requested to travel.

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DRYWALL APPLICATORS

No Rate Established

Duties Include:
Drywall and ceiling tile installation.

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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ELECTRICIANS: INCLUDING BUILDING AUTOMATION CONTROL

	Wage	Benefit
District 1	$36.88	$15.78
District 2	$36.00	$15.87
District 3	$36.50	$16.76
District 4	$40.00	$16.95

Duties Include:
Electrical wiring; equipment and fixtures; street lights; electrical control systems. Installation and/or adjusting of building automation controls also during testing and balancing, commissioning and retro-commissioning.

Travel:
District 1

No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-15 mi. free zone
>15-45 mi. $0.585/mi. in excess of the free zone.
>45 mi. $75.00/day

Districts 2 & 3
No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-08 mi. free zone
>08-50 mi. current federal mileage rate/mi. in excess of the free zone.
>50 mi. $71.57/day

District 4
No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-18 mi. free zone
>18-60 mi. federal mileage rate/mi.

Per Diem
District 4
>60 mi. $80.00/day
Per Diem in Big Sky and West Yellowstone $125/day.

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ELEVATOR CONSTRUCTORS

	Wage	Benefit
District 1	$64.87	$46.38
District 2	$64.87	$46.38
District 3	$64.87	$46.38
District 4	$64.87	$46.38

Travel:
All Districts
0-15 mi. free zone
>15-25 mi. $49.73/day
>25-35 mi. $99.45/day
>35 mi. $112.90/day

Special Provision:
.93/mile when added to amounts above if using employee vehicle.

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FLOOR LAYERS

No Rate Established

Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors.

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GLAZIERS

	Wage	Benefit
District 1	$24.13	$3.66
District 2	$24.13	$3.66
District 3	$24.13	$3.66
District 4	$23.73	$4.02

Travel and Per Diem:
All Districts
No travel or per diem established.

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HEATING AND AIR CONDITIONING

	Wage	Benefit
District 1	$32.95	$14.16
District 2	$33.15	$15.35
District 3	$34.69	$16.88
District 4	$35.76	$18.44

Duties Include:
Testing and balancing, commissioning and retro-commissioning of all air-handling equipment and duct work.

All Districts
0-45 mi. free zone
>45 mi.
- $0.25/mi. in employer vehicle.
- $0.65/mi. in employee vehicle.

Per Diem:
All Districts
$85/day

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INSULATION WORKERS - MECHANICAL (HEAT AND FROST)

	Wage	Benefit
District 1	$43.81	$21.99
District 2	$43.81	$21.99
District 3	$43.81	$21.99
District 4	$43.81	$21.99

Duties Include:
Insulate pipes, ductwork or other mechanical systems.

Travel:
0-30 mi. free zone
>30-40 mi. $25.00/day
>40-50 mi. $35.00/day
>50-60 mi. $45.00/day
>60 mi. $130.00/day plus
- $0.56/mi. if transportation is not provided.
- $0.20/mi. if in company vehicle.

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IRONWORKERS – REINFORCING IRON AND REBAR WORKERS

	Wage	Benefit
District 1	$36.83	$26.92
District 2	$34.83	$24.68
District 3	$34.83	$25.37
District 4	$34.16	$25.83

Duties Include:
Structural steel erection; assemble prefabricated metal buildings; cut, bend, tie, and place rebar; energy producing windmill type towers; metal bleacher seating; handrail fabrication and ornamental steel.

Travel:
All Districts
0-45 mi. free zone
>45-85 mi. $100.00/day
>85 mi. $150.00/day

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IRONWORKERS – STRUCTURAL IRON AND STEEL WORKERS

	Wage	Benefit
District 1	$34.94	$26.37
District 2	$34.83	$25.37
District 3	$34.83	$25.37
District 4	$34.83	$25.37

Duties Include:
Structural steel erection; assemble prefabricated metal buildings; cut, bend, tie, and place rebar; energy producing windmill type towers; metal bleacher seating; handrail fabrication and ornamental steel.

Travel:
All Districts
0-45 mi. free zone
>45-85 mi. $100.00/day
>85 mi. $150.00/day

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MILLWRIGHTS

	Wage	Benefit
District 1	$40.45	$21.25
District 2	$40.45	$21.25
District 3	$40.45	$21.25
District 4	$40.45	$21.25

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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PAINTERS: INCLUDING PAPERHANGERS

	Wage	Benefit
District 1	$29.40	$21.48
District 2	$20.30	$21.48
District 3	$29.40	$21.48
District 4	$26.64	$21.48

Travel and Per Diem:
All Districts
No travel or per diem established.

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PILE BUCKS

No Rate Established

Duties Include:
Set up crane; set up hammer; weld tips on piles; set leads; insure piles are driven straight with the use of level or plum bob. Give direction to crane operator as to speed and direction of swing. Cut piles to grade.

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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PILOT CAR DRIVERS

No Rate Established

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PLASTERERS

No Rate Established

Duties Include:
All materials beyond the substrate, such as a moisture barrier, any type of drainage installation between the moisture barrier and insulation or EPS board, the attachment of the EPS board, installation of fiberglass mesh embedded in the base coat, any water-resistant coat that is applied on top of the insulation to serve as a weather barrier, and the application of the finish coat.

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PLUMBERS, PIPEFITTERS, AND STEAMFITTERS

	Wage	Benefit
District 1	$40.90	$17.47
District 2	$44.90	$17.47
District 3	$44.90	$17.47
District 4	$40.90	$20.86

Duties Include:
Assemble, install, alter, and repair pipe-lines or pipe systems that carry water, steam, air, other liquids or gases. Testing of piping systems, commissioning and retro-commissioning. Workers in this occupation may also install heating and cooling equipment and mechanical control systems.

Travel:
Disrict 1
0-30 mi. free zone
>30-50 mi. $35.00/day
>50-75 mi. $45.00/day
>75 mi. $100.00/day

Special Provision
If transportation is not provided, mileage at $0.35/mi. for one trip out and one trip back is added to the amounts above. However, if the employee is traveling more than 75 miles/day, only subsistence at the rate of $85.00/day is required.

Districts 2 & 3
0-45 mi. free zone
>45 mi.

- $0.00/mi. in employer vehicle.
- $0.65/mi. in employee vehicle.

Special Provision:
At the contractors' option, mileage for one trip out and one trip back per week may be paid plus subsistence at the rate of $135.00/day.

District 4
0-70 free zone
>70 mi.

- On jobs when employees do not work consecutive days: $0.55/mi. if employer doesn't provide transportation. Not to exceed two trips.
- On jobs when employees work any number of consecutive days: $110.00/day.

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ROOFERS

	Wage	Benefit
District 1	$32.97	$9.40
District 2	$32.97	$9.40
District 3	$32.97	$9.40
District 4	$25.08	$5.19

Duties Include:
Metal roofing, covers roofs, walls and foundations with water proofing, insulation and vapor barriers in addition to metal flashings. Roofing includes shingles, low slope membranes, metal roofs, insulation, spray foam, coatings and vapor barriers. Wall coverings include metal panels, insulated metal panels and other waterproofing or rain screen systems. Foundation systems include waterproofing and insulation. Excludes prefabricated metal buildings.

Travel:
District 1
0-50 mi. free zone
>50 mi.
- $0.00/mi. in employer vehicle.
- $0.35/mi. in employee vehicle.

District 2 and 3
0-35 mi. free zone
>35 mi.
- $0.00/mi. in employer vehicle.
- $0.40/mi. in employee vehicle.

District 4
0-50 mi. free zone
>50 mi.
- $0.00/mi. in employer vehicle.
- $0.35/mi. in employee vehicle.

Per Diem:
District 1
$84.00/day

District 2 and 3
Employer pays for room + $30.00/day.

District 4
Employer pays for room + $25.00/day.

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SHEET METAL WORKERS

	Wage	Benefit
District 1	$38.14	$21.61
District 2	$38.14	$21.61
District 3	$38.14	$21.61
District 4	$38.14	$21.61

Duties Include:
Testing and balancing, commissioning and retro-commissioning of all air-handling equipment and duct work. Manufacture, fabrication, assembling, installation, dismantling, and alteration of all HVAC systems, air conveyer systems, and exhaust systems. All lagging over insulation and all duct lining.

All Districts

0-45 mi. free zone
46-65 mi. $35/day
>65 mi. $155/day for overnight stay
>65 mi. if employee is driving/riding in a company vehicle and returns home the same day, drive time shall be paid both ways, and no subsistence paid. Drive time will be at straight time and there shall be no benefits paid for drive time. Drive time will be outside the regular shift.

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SOLAR PHOTOVOLTAIC INSTALLERS

	Wage	Benefit
District 1	$36.50	$16.76
District 2	$36.50	$16.76
District 3	$36.50	$16.76
District 4	$36.50	$16.76

Travel:

Districts 1, 2 and 3
No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-08 mi. free zone
>08-50 mi. federal mileage rate/mi. in excess of the free zone.
>50 mi. $60.57/day

District 4
No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-18 mi. free zone
>18-60 mi. federal mileage rate/mi.
>60 mi. $75.00/day

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SPRINKLER FITTERS

	Wage	Benefit
District 1	$44.11	$32.36
District 2	$44.11	$23.55
District 3	$38.70	$20.37
District 4	$44.11	$21.97

Duties Include:
Duties Include but not limited to any and all fire protection systems: Installation, dismantling, inspection, testing, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems, including both overhead and underground water mains, all piping, fire hydrants, standpipes, air lines, tanks, and pumps used in connection with sprinkler and alarm systems.

Travel
All Districts

The following travel allowance is applicable when traveling in employee's vehicle.

0-60 mi. free zone
>60-80 mi. $19.00/day
>80-100 mi. $29.00/day
>100 mi. $105.00/day + the IRS rate per mile and $8.92 for every 15 miles traveled for one trip out and one trip back

No travel allowance required when in employer's vehicle except when staying the night.

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TAPERS

No Rate Established

Travel and Per Diem:
All Districts
No travel or per diem established.

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TELECOMMUNICATIONS EQUIPMENT INSTALLERS

	Wage	Benefit
District 1	$39.66	$14.43
District 2	$22.00	$11.06
District 3	$22.00	$11.27
District 4	$22.00	$11.27

Travel:
All Districts
The federal mileage rate/mi. in effect when travel occurs if using own vehicle.

Per Diem:
All Districts
Employer pays for meals and lodging up to $75.00/day. When jobsite is located in Big Sky, West Yellowstone, and Gardiner, lodging and meals will be provided by the employer for all actual and reasonable expenses incurred.

Duties Include:
Install voice; sound; vision and data systems. This occupation includes burglar alarms, fire alarms, fiber optic systems, and video systems for security or entertainment

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TERRAZZO WORKERS AND FINISHERS

No Rate Established

Duties Include:
Finish work on hard tile, marble, and wood tile to floors, ceilings, and roof decks

Travel and Per Diem
No travel or per diem established.

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TILE AND STONE SETTERS

No Rate Established

Duties Include:
Apply hard tile, stone, and comparable materials to walls, floors, ceilings, countertops, and roof decks.

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TRUCK DRIVERS

Pilot Car Driver **No Rate Established**

	Wage	Benefit
District 1	$23.68	$ 7.67
District 2	$23.80	$ 6.13
District 3	$23.80	$ 6.13
District 4	$23.68	$ 7.67

Truck drivers include but are not limited to:
Combination Truck & Concrete Mixer; Distributor Driver; Dry Batch Trucks; DumpTrucks & Similar Equipment; Flat Trucks; Lowboys, Four-Wheel Trailers, Float Semitrailer; Powder Truck Driver (Bulk Unloader Type); Servicemen; Service Truck Drivers, Fuel Truck Drivers, Tiremen; Trucks with Power Equipment; Truck Mechanic; Water Tank Drivers, Petroleum Product Drivers.

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Zone Pay:
All Districts
No zone pay established.

MONTANA
PREVAILING WAGE RATES FOR HEAVY CONSTRUCTION SERVICES 2025

Effective: January 11, 2025

Greg Gianforte, Governor
State of Montana

Sarah Swanson, Commissioner
Department of Labor & Industry

To obtain copies of prevailing wage rate schedules, or for information relating to public works projects and payment of prevailing wage rates, visit ESD at erd.dli.mt.gov/labor-standards or contact:

Employment Standards Division
Montana Department of Labor and Industry
P. O. Box 8011
Helena, MT 59604
Phone 406-444-6543

The department welcomes questions, comments, and suggestions from the public. In addition, we'll do our best to provide information in an accessible format, upon request, in compliance with the Americans with Disabilities Act.

MONTANA PREVAILING WAGE REQUIREMENTS

The Commissioner of the Department of Labor and Industry, in accordance with Sections 18-2-401 and 18-2-402 of the Montana Code Annotated (MCA), has determined the standard prevailing rate of wages for the occupations listed in this publication.

The wages specified herein control the prevailing rate of wages for the purposes of Section 18-2-401, et seq., MCA. It is required each employer pay (as a minimum) the rate of wages, including fringe benefits, travel allowance, zone pay and per diem applicable to the district in which the work is being performed as provided in the attached wage determinations.

All Montana Prevailing Wage Rates are available on the internet at erd.dli.mt.gov/labor-standards or by contacting the department at (406) 444-6543.

In addition, this publication provides general information concerning compliance with Montana's Prevailing Wage Law and the payment of prevailing wages. For detailed compliance information relating to public works contracts and payment of prevailing wage rates, please consult the regulations on the internet at erd.dli.mt.gov/labor-standards or contact the department at (406) 444-6543.

SARAH SWANSON
Commissioner
Department of Labor and Industry
State of Montana

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A. Date of Publication January 13, 2025

B. Definition of Heavy Construction

The Administrative Rules of Montana (ARM), 24.17.501(4) – (4)(b), states *"Heavy construction projects include, but are not limited to, those projects that are not properly classified as either 'building construction', or 'highway construction.'*

Heavy construction projects include, but are not limited to, antenna towers, bridges (major bridges designed for commercial navigation), breakwaters, caissons (other than building or highway), canals, channels, channel cut-offs, chemical complexes or facilities (other than buildings), cofferdams, coke ovens, dams, demolition (not incidental to construction), dikes, docks, drainage projects, dredging projects, electrification projects (outdoor), fish hatcheries, flood control projects, industrial incinerators (other than building), irrigation projects, jetties, kilns, land drainage (not incidental to other construction), land leveling (not incidental to other construction), land reclamation, levees, locks and waterways, oil refineries (other than buildings), pipe lines, ponds, pumping stations (prefabricated drop-in units – not buildings), railroad construction, reservoirs, revetments, sewage collection and disposal lines, sewers (sanitary, storm, etc.), shoreline maintenance, ski tows, storage tanks, swimming pools (outdoor), subways (other than buildings), tipples, tunnels, unsheltered piers and wharves, viaducts (other than highway), water mains, waterway construction, water supply lines (not incidental to building), water and sewage treatment plants (other than buildings) and wells."

C. Definition of Public Works Contract

Section 18-2-401(11)(a), MCA defines "public works contract" as *"…a contract for construction services let by the state, county, municipality, school district, or political subdivision or for nonconstruction services let by the state, county, municipality, or political subdivision in which the total cost of the contract is in excess of $25,000…"*.

D. Prevailing Wage Schedule

This publication covers only Heavy Construction occupations and rates in the specific localities mentioned herein. These rates will remain in effect until superseded by a more current publication. Current prevailing wage rate schedules for Building Construction, Highway Construction and Nonconstruction Services occupations can be found on the internet at https://erd.dli.mt.gov/labor-standards/state-prevailing-wage-rates/ or by contacting the department at (406) 444-6543.

E. Rates to Use for Projects

ARM, 24.17.127(1)(c), states *"The wage rates applicable to a particular public works project are those in effect at the time the bid specifications are advertised."*

F. Wage Rate Adjustments for Multiyear Contracts

Section 18-2-417, MCA states:
"(1) Any public works contract that by the terms of the original contract calls for more than 30 months to fully perform must include a provision to adjust, as provided in subsection (2), the standard prevailing rate of wages to be paid to the workers performing the contract.

(2) The standard prevailing rate of wages paid to workers under a contract subject to this section must be adjusted 12 months after the date of the award of the public works contract. The amount of the adjustment must be a 3% increase. The adjustment must be made and applied every 12 months for the term of the contract.

(3) Any increase in the standard rate of prevailing wages for workers under this section is the sole responsibility of the contractor and any subcontractors and not the contracting agency."

G. Fringe Benefits

Section 18-2-412, MCA states:

"(1) To fulfill the obligation…a contractor or subcontractor may:

(a) pay the amount of fringe benefits and the basic hourly rate of pay that is part of the standard prevailing rate of wages directly to the worker or employee in cash;

(b) make an irrevocable contribution to a trustee or a third person pursuant to a fringe benefit fund, plan, or program that meets the requirements of the Employee Retirement Income Security Act of 1974 or that is a bona fide program approved by the U. S. department of labor; or

(c) make payments using any combination of methods set forth in subsections (1)(a) and (1)(b) so that the aggregate of payments and contributions is not less than the standard prevailing rate of wages, including fringe benefits and travel allowances, applicable to the district for the particular type of work being performed.

(2) The fringe benefit fund, plan, or program described in subsection (1)(b) must provide benefits to workers or employees for health care, pensions on retirement or death, life insurance, disability and sickness insurance, or bona fide programs that meet the requirements of the Employee Retirement Income Security Act of 1974 or that are approved by the U. S. department of labor."

Fringe benefits are paid for all hours worked (straight time and overtime hours). However, fringe benefits are not to be considered a part of the hourly rate of pay for calculating overtime, unless there is a collectively bargained agreement in effect that specifies otherwise.

H. Dispatch City

ARM, 24.17.103(11), defines dispatch city as *"…the courthouse in the city from the following list which is closest to the center of the job: Billings, Bozeman, Butte, Great Falls, Helena, Kalispell, Miles City, Missoula and Sidney."*

I. Zone Pay

Zone pay is not travel pay. ARM, 24.17.103(25), defines zone pay as *"…an amount added to the base pay; the combined sum then becomes the new base wage rate to be paid for all hours worked on the project. Zone pay must be determined by measuring the road miles one way over the shortest practical maintained route from the dispatch city to the center of the job."* See section H above for a list of dispatch cities.

J. Computing Travel Benefits

ARM, 24.17.103(23), states *" 'Travel pay,' also referred to as 'travel allowance,' is and must be paid for travel both to and from the job site, except those with special provisions listed under the classification. The rate is determined by measuring the road miles one direction over the shortest practical maintained route from the dispatch city or the employee's home, whichever is closer, to the center of the job."* See section H above for a list of dispatch cities.

K. Per Diem

ARM, 24.17.103(19), states *" 'Per diem' typically covers costs associated with board and lodging expenses. Per diem is paid when an employee is required to work at a location outside the daily commuting distance and is required to stay at that location overnight or longer."*

L. Apprentices

Wage rates for apprentices registered in approved federal or state apprenticeship programs are contained in those programs. Additionally, Section 18-2-416(2), MCA states, *"…The full amount of any applicable fringe benefits must be paid to the apprentice while the apprentice is working on the public works contract."* Apprentices not registered in approved federal or state apprenticeship programs will be paid the appropriate journey level prevailing wage rate when working on a public works contract.

M. Posting Notice of Prevailing Wages

Section 18-2-406, MCA, provides that contractors, subcontractors, and employers who are *"…performing work or providing construction services under public works contracts, as provided in this part, shall post in a prominent and accessible site on the project or staging area, not later than the first day of work and continuing for the entire duration of the project, a legible statement of all wages and fringe benefits to be paid to the employees."*

N. Employment Preference

Sections 18-2-403 and 18-2-409, MCA require contractors to give preference to the employment of bona fide Montana residents in the performance of work on public works contracts.

O. Projects of a Mixed Nature

Section 18-2-418, MCA states:

"(1) The contracting agency shall determine, based on the preponderance of labor hours to be worked, whether the public works construction services project is classified as a highway construction project, a heavy construction project, or a building construction project.

(2) Once the project has been classified, employees in each trade classification who are working on that project must be paid at the rate for that project classification"

P. Occupations Definitions

You can find definitions for these occupations on the following Bureau of Labor Statistics website:
http://www.bls.gov/oes/current/oes_stru.htm

Q. Welder Rates

Welders receive the rate prescribed for the craft performing an operation to which welding is incidental.

R. Foreman Rates

Rates are no longer set for foremen. However, if a foreman performs journey level work, the foreman must be paid at least the journey level rate.

S. Proper Classification for Pipefitter and Laborer/Pipelayer Work on Water and Waste Water Treatment Plants The proper classification for the following work is Pipefitter, when it is performed inside a building structure or performed at a location which will later be inside of a building: Joining steel pipe larger than 12 inches in diameter with bolted flange connections that has been pre-fabricated off site and does not require any modification such as cutting, grinding, welding, or other fabrication in order to be installed. All other work previously classified as pipefitter remains in that classification. The proper classification for that work when it is at a location that will always be outside a building is Pipelayer, which is under the Laborer Group 3 classification.

WAGE RATES

BOILERMAKERS

Wage	Benefit
$35.30	$34.00

Duties Include:
Construct, assemble, maintain, and repair stationary steam boilers, boiler house auxiliaries, process vessels, pressure vessels and penstocks. Bulk storage tanks and bolted steel tanks.

Travel and Per Diem:
No travel or per diem established.

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BRICK, BLOCK, AND STONE MASONS

Wage	Benefit
$32.32	$16.78

Travel:
0-70 mi. free zone
>70-90 mi. $60.00/day
>90 mi. $80.00/day

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CARPENTERS

Wage	Benefit
$36.49	$17.45

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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CEMENT MASONS AND CONCRETE FINISHERS

Wage	Benefit
$38.54	**$17.04**

Duties Include:
Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, or curbs. Align forms for sidewalks, curbs, or gutters.

Zone Pay:
0-30 mi free zone
30-60 mi base pay+2.95/hr.
>60 mi base pay+4.75/hr.

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 1

Wage	Benefit
$31.51	$15.73

This group includes but is not limited to:
Air Compressor; Auto Fine Grader; Belt Finishing; Boring Machine (Small); Cement Silo; Crane, A-Frame Truck Crane; Crusher Conveyor; DW-10, 15, and 20 Tractor Roller; Farm Tractor; Forklift; Form Grader; Front-End Loader, under 1 cu. yd; Oiler, Herman Nelson Heater; Mucking Machine; Oiler, All Except Cranes/Shovels; Pumpman.

Per Diem:
0-75 mi free zone
>75 mi $70/day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 2

Wage	Benefit
$32.88	$15.15

This group includes but is not limited to:
Air Doctor; Backhoe\Excavator\Shovel, up to and incl. 3 cu. yds; Bit Grinder; Bitunimous Paving Travel Plant; Boring Machine, Large; Broom, Self-Propelled; Concrete Travel Batcher; Concrete Float & Spreader; Concrete Bucket Dispatcher; Concrete Finish Machine; Concrete Conveyor; Distributor; Dozer, Rubber-Tired, Push, & Side Boom; Elevating Grader\Gradall; Field Equipment Serviceman; Front-End Loader, 1 cu. yd up to and incl. 5 cu. yds; Grade Setter; Heavy Duty Drills, All Types; Hoist\Tugger, All; Hydralift Forklifts & Similar; Industrial Locomotive; Motor Patrol (except finish); Mountain Skidder; Oiler, Cranes\Shovels; Pavement Breaker, EMSCO; Power Saw, Self-Propelled; Pugmill; Pumpcrete\Grout Machine; Punch Truck; Roller, other than Asphalt; Roller, Sheepsfoot (Self-Propelled); Roller, 25 tons and over; Ross Carrier; Rotomill, under 6 ft; Trenching Machine; Washing /Screening Plant

Per Diem:
0-75 mi free zone
>75 mi $70/day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 3

Wage	Benefit
$38.00	$16.35

This group includes but is not limited to:
Asphalt Paving Machine; Asphalt Screed; Backhoe\Excavator\Shovel, over 3 cu. yds; Cableway Highline; Concrete Batch Plant; Concrete Curing Machine; Concrete Pump; Cranes, Creter; Cranes, Electric Overhead; Cranes, 24 tons and under; Curb Machine\Slip Form Paver; Finish Dozer; Front-End Loader, over 5 cu. yds; Mechanic\Welder; Pioneer Dozer; Roller Asphalt (Breakdown & Finish); Rotomill, over 6 ft; Scraper, Single, Twin, or Pulling Belly-Dump; YO-YO Cat Haul Truck, Articulating Trucks, Vac Truck.

Per Diem:
0-75 mi. free zone
>75 mi. $110.00/Day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 4

Wage	Benefit
$38.00	$16.35

This group includes but is not limited to:
Asphalt\Hot Plant Operator; Cranes, 25 tons up to and incl. 44 tons; Crusher Operator; Finish Motor Patrol; Finish Scraper.

Per Diem:
0-75 mi. free zone
>75 mi. $110.00/Day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 5

Wage	Benefit
$38.00	$16.35

This group includes but is not limited to:
Cranes, 45 tons up to and incl. 74 tons.

Per Diem:
0-75 mi. free zone
>75 mi. $110.00/Day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 6

Wage	Benefit
$40.00	$16.35

This group includes but is not limited to:
Cranes, 75 tons up to and incl. 149 tons; Cranes, Whirley (All).

Per Diem:
0-75 mi. free zone
>75 mi. $110.00/Day

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CONSTRUCTION EQUIPMENT OPERATORS GROUP 7

Wage	Benefit
$42.00	$16.35

This group includes but is not limited to:
Cranes, 150 tons up to and incl. 250 tons; Cranes, over 250 tons—add $1.00 for every 100 tons over 250 tons; Crane, Tower (All); Crane Stiff-Leg or Derrick; Helicopter Hoist.

Per Diem:
0-75 mi. free zone
>75 mi. $110.00/Day

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CONSTRUCTION LABORERS GROUP 1/FLAG PERSON FOR TRAFFIC CONTROL

Wage	Benefit
$23.08	$11.82

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

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CONSTRUCTION LABORERS GROUP 2

Wage	Benefit
$26.15	$13.44

This group includes but is not limited to:
General Labor; Asbestos Removal; Burning Bar; Bucket Man; Carpenter Tender; Caisson Worker; Cement Mason Tender; Cement Handler (dry); Chuck Tender; Choker Setter; Concrete Worker; Curb Machine-lay Down; Crusher and Batch Worker; Heater Tender; Fence Erector; Landscape Laborer; Landscaper; Lawn Sprinkler Installer; Pipe Wrapper; Pot Tender; Powderman Tender; Rail and Truck Loaders and Unloaders; Riprapper; Sign Erection; Guardrail and Jersey Rail; Spike Driver; Stake Jumper; Signalman; Tail Hoseman; Tool Checker and Houseman and Traffic Control Worker.

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

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CONSTRUCTION LABORERS GROUP 3

Wage	Benefit
$26.07	$13.44

This group includes but is not limited to:
Concrete Vibrator; Dumpman (Grademan); Equipment Handler; Geotextile and Liners; High-Pressure Nozzleman; Jackhammer (Pavement Breaker) Non-Riding Rollers; Pipelayer; Posthole Digger (Power); Power Driven Wheelbarrow; Rigger; Sandblaster; Sod Cutter-Power and Tamper.

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

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CONSTRUCTION LABORERS GROUP 4

Wage	Benefit
$26.76	$11.82

This group includes but is not limited to:
Hod Carrier***; Water Well Laborer; Blaster; Wagon Driller; Asphalt Raker; Cutting Torch; Grade Setter; High-Scaler; Power Saws (Faller & Concrete);
Powderman; Rock & Core Drill; Track or Truck Mounted Wagon Drill and Welder incl. Air Arc

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + $4.85/hr.

***Hod Carriers will receive the same amount of travel and/or subsistence pay as bricklayers when requested to travel.

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DIVERS

Stand-By	**No Rate Established**
Diving	**No Rate Established**

Depth Pay (Surface Diving)

0-20 ft.	free zone
>20-100 ft.	$2.00 per ft.
>100-150 ft.	$3.00 per ft.
>150-220 ft.	$4.00 per ft.
>220 ft.	$5.00 per ft.

Diving In Enclosures

0-25 ft.	free zone
>25-300 ft.	$1.00 per ft.

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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DIVER TENDERS

No Rate Established

The tender shall receive 2 hours at the straight time pay rate per shift for dressing and/or undressing a Diver when work is done under hyperbaric conditions.

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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ELECTRICIANS

Wage	Benefit
$38.86	$17.84

Travel:
No mileage due when traveling in employer's vehicle.

The following travel allowance is applicable when traveling in employee's vehicle:

0-18 mi. free zone
>18-60 mi. federal mileage rate/mi.

Per Diem
District 4
>60 mi. $80.00/day
Per Diem in Big Sky and West Yellowstone $125/day.

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INSULATION WORKERS - MECHANICAL (HEAT AND FROST)

No Rate Established

Duties Include:
Insulate pipes, ductwork or other mechanical systems.

Travel:
0-30 mi. free zone
>30-40 mi. $25.00/day
>40-50 mi. $35.00/day
>50-60 mi. $45.00/day
>60 mi. $130.00/day plus

- $0.56/mi. if transportation is not provided.
- $0.20/mi. if in company vehicle.

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IRONWORKERS – REINFORCING IRON AND REBAR WORKERS

Wage	Benefit
$34.83	$28.07

Duties Include:
Structural steel erection; assemble prefabricated metal buildings; cut, bend, tie, and place rebar; energy producing windmill type towers; metal bleacher seating; handrail fabrication and ornamental steel.

Travel:
All Districts
0-45 mi. free zone
>45-85 mi. $100.00/day
>85 mi. $150.00/day

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IRONWORKERS – STRUCTURAL IRON AND STEEL WORKERS

Wage	Benefit
$34.83	$28.07

Duties Include:
Structural steel erection; assemble prefabricated metal buildings; cut, bend, tie, and place rebar; energy producing windmill type towers; metal bleacher seating; handrail fabrication and ornamental steel.

Travel:
All Districts
0-45 mi. free zone
>45-85 mi. $100.00/day
>85 mi. $150.00/day

LINE CONSTRUCTION – EQUIPMENT OPERATORS

No Rate Established

Duties Include:
All work on substations

Travel:
No Free Zone
$60.00/day

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LINE CONSTRUCTION – GROUNDMAN

Wage	Benefit
$29.09	$8.36

Duties Include:
All work on substations

Travel:
No Free Zone
$60.00/day

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LINE CONSTRUCTION – LINEMAN

Wage	Benefit
$52.11	$18.75

Duties Include:
All work on substations

Travel:
No Free Zone
$60.00/day

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MILLWRIGHTS

Wage	Benefit
$45.26	$21.25

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

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PAINTERS

Wage	Benefit
$25.00	No Rate Established

Travel and Per Diem:
No travel or per diem established.

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PILE BUCKS

Wage	Benefit
$36.49	$14.33

Zone Pay:
0-30 mi. free zone
>30-60 mi. base pay + $4.00/hr.
>60 mi. base pay + $6.00/hr.

Duties Include:
Set up crane; set up hammer; weld tips on piles; set leads; insure piles are driven straight with the use of level or plum bob. Give direction to crane operator as to speed, and direction of swing. Cut piles to grade.

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PLUMBERS, PIPEFITTERS, AND STEAMFITTERS

Wage	Benefit
$45.60	$21.26

Travel:
District 4
0-70 free zone
>70 mi.

- On jobs when employees do not work consecutive days: $0.55/mi. if employer doesn't provide transportation. Not to exceed two trips.
- On jobs when employees work any number of consecutive days: $110.00/day.

Duties Include:
Assemble, install, alter, and repair pipe-lines or pipe systems that carry water, steam, air, other liquids or gases. Testing of piping systems, commissioning and retro-commissioning. Workers in this occupation may also install heating and cooling equipment and mechanical control systems.

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SPRINKLER FITTERS

No Rate Established

Duties Include:
Duties Include but not limited to any and all fire protection systems: Installation, dismantling, inspection, testing, maintenance, repairs, adjustments, and corrections of all fire protection and fire control systems, including both overhead and underground water mains, all piping, fire hydrants, standpipes, air lines, tanks, and pumps used in connection with sprinkler and alarm systems.

Travel

The following travel allowance is applicable when traveling in employee's vehicle.

0-60 mi. free zone
>60-80 mi. $23.00/day
>80-100 mi. $33.00/day
>100 mi. $125.00/day + the IRS rate per mile and $8.92 for every 15 miles traveled for one trip out and one trip back

No travel allowance required when in employer's vehicle except when staying the night.
>100 mi. $125.00/day

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TRUCK DRIVERS

	No Rate Established	
	Wage	**Benefit**
Pilot Car Driver		
Truck Driver	$31.28	$9.37

Truck drivers include but are not limited to:
Combination Truck and Concrete Mixer and Transit Mixer; Dry Batch Trucks; Distributor Driver; Dumpman; Dump Trucks and similar equipment; Dumpster; Flat Trucks; Lumber Carriers; Lowboys; Pickup; Powder Truck Driver; Power Boom; Serviceman; Service Truck/Fuel Truck/Tireperson; Truck Mechanic; Trucks with Power Equipment; Warehouseman, Partsman, Cardex and Warehouse Expeditor; Water Trucks.

Zone Pay:
All Districts
0-30 mi. free zone
>30-60 mi. base pay + $3.05/hr.
>60 mi. base pay + .$4.85/hr.

Special Provision:
Zone pay only applies to the Truck Driver classification. No zone pay was established for Pilot Car Driver.

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SECTION 00910

SPECIAL PROVISIONS

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SP-1 FORMAT

The specifications for this project include by reference the following two documents. Although they are not printed in this Project Manual, they are still made part of these Contract Documents and the Contractor must comply with any and all such regulations, unless modified herein.

Document	*Available From*
Montana Public Works Standard Specifications (MPWSS) Sixth Edition, April 2010	Montana Contractors Association 1717 11th Avenue PO Box 4519 Helena, MT 59604 406-442-4162
City of Billings Standard Modifications to MPWSS Sixth Edition, January 2021	City of Billings Public Works Department Engineering Division 2224 Montana Avenue Billings, MT 59101 406-657-8231 *– or online at –* https://www.billingsmtpublicworks.gov/DocumentCenter/View/105/Standard-Mods-January-2021-PDF

The following Special Provisions include additional requirements that are specific to this project. In case of a conflict, the hierarchal order of precedence is as listed in City of Billings Standard Modifications to MPWSS.

SP-2 SUBSTANTIAL COMPLETION

Define substantial completion requirements specific to the project that is in addition to, or as a modification to the MPWSS or COB Std Mods.

SP-3 PROJECT COORDINATION

Project shall include coordination of the excavation and installation of pier footings for the proposed netting posts. Contractor to call for private locate and coordinate excavation for footings and verify and protect existing utilities located in the plaza areas and field areas for drainage, fiber optic, power, sanitary sewer, field drainage, irrigation and other items shown on the plans for Dehler Park.

SP-4 FIELD ENGINEERING

Netting contractor shall provide structural engineering plans and details for the footings for the net posts and provide for submittal for a building permit for the foundations.

SP-5 CONTRACT SCHEDULE

Contractor shall be completed by May 15th with the installation of the entire project.

SP-6 MEASUREMENT & PAYMENT

A. General

1. Refer to the City of Billings Standard Modifications, Section 00900, Article 3 for general measurement and payment requirements.

2. For certain items on the Bid Form, additional quantities may have been added to the actual takeoff quantities from the Drawings to account for unknown underground conditions.

B. Measurement & Payment Items

1. Item 101 – Mobilization/Demobilization (LS): See City of Billings Standard Modifications, Section 00900, Article 4.

TECHNICAL SPECIFICATIONS

CONTRACT PLANS

SECTION 02.10.00
DEMOLITION

1.01 GENERAL REQUIREMENTS

A. Conform to the General Conditions, Supplementary Conditions, and Division 1.

1.02 DESCRIPTION OF WORK

A. Work includes, but is not limited to Demolition of concrete flatwork, concrete retaining wall, footings excavation and possibly field warning track.

1.03 RELATED SECTIONS

A. Section 03300 – Cast-In-Place Concrete

B. Section 11.63.53 –Athletic Site Furnishings

1.04 Section 11.64RELATED DOCUMENTS (References and Standards)

A. NA

1.05 CONTRACTOR QUALIFICATION REQUIREMENTS

A. NA

1.06 JOB CONDITIONS

A. Underground utilities and elements: locate all underground utilities and elements prior to digging and/or driving stakes. Take care, to neither disturb nor damage any existing above ground or underground utilities or elements. Keep streets, sidewalks, and site clean, free from debris and affected drains open and free flowing at all times. You must call Utilities Underground Location Services @ (800)424-5555 for utility location at or near the street right of way and can call Locating, Inc. @ (425) 392-6412 or CNI @ (206) 255-8650 or Applied Professional Services 2 @ (425- 313-1034 for location of utilities within the site, (Note: these firms will charge for services rendered). Contractor shall meet with the Landscape Architect to verify location of utilities with Contractor's location service.

B. Contact the Landscape Architect and City of Billings to request shut-off of pressurized or powered utilities. Certify that all appropriate services have been disconnected. The Contractor shall pay for all fees and costs associated with utility disconnect, capping of lines and meter removals required with the Public Right of Way.

C. Do not shut off or cap utilities without prior notice. Coordinate work with Division 1 requirements. Maintain street and site drains and sewers open for free drainage. Provide catch basin protection in parking lot as required for storage of excavation materials prior to removal by Parks Staff.

D. Objectionable noises: Limit use of air hammers and other noisy equipment as much as possible. Conform to local governing requirements.

1.07 SUBMITTALS

A. NA

1.08 QUALITY ASSURANCE (Tests and Inspection Requirements)

A. NA

1.09 DELIVERY, STORAGE AND PROTECTION

A. NA

1.10 FIELD VERIFICATION

A. NA

1.11 WARRANTY

A. Shall include labor and materials and shall be made to;

1. City of Billings Parks & Recreation, 09 N 29th Street, Billings, MT 59101

PART 2 – PRODUCTS

N/A

PART 3 – EXECUTION

3.01 PROTECTION OF FACILITIES

A. Follow all procedures in Section 02.05.00, Site Preparation for protection of drainage structures, utilities, tree, and other facilities during demolition work.

B. Protect existing concrete flatwork in the plaza area of the stadium, protect concrete with sheet, or piling, or dunnage materials as required based upon size of equipment to access and drill footings for netting posts, and to remove existing flatwork and or field wall for footing placement.

C. If access to stadium grass field is required, coordinate with Billings Parks and Dehler Park Staff to locate and flag existing irrigation heads and valve boxes and storm water drainage structures along 1st and 3rd base lines prior to access with equipment.

D. All damage shall be repaired and restored at the contractors expense.

3.02 DEMOLISH CONCRETE PAVING

A. Identify areas of existing concrete paving to be removed by marking centerline of and or edges of existing concrete flatwork and or walls to demolish and remove to install footings for tie back poles and or end large netting poles.

3.03 WARNING TRACK MATERAILS

A. All warning track materials to be removed for footings installation shall be stripped to approx. 6” depth and stockpiled to re-install after placement of all footings and repair of field walls along 1st and rd base lines.

3.04 DISPOSAL OF MATERIALS

A. All concrete, asphalt or reinforcement removed shall be disposed of off site and recycle accordingly.

B. All soils removed and excavated for all footings for large poles shall be stockpiled in the outfield for disposal by the City of Billings Parks & Recreation Staff.

C. Any sod to be removed due to restoration or installation of footings shall be disposed of with soils in parking lot area.

D. The Contractor, in a manner consistent with all government regulations, shall dispose of the refuse resulting from demolition. In no case shall refuse material be left on the project site, or be buried in embankments or trenches on the project site. All effort shall be made to recycle materials whenever possible. Maintain hauling routes clean and free of any debris resulting from work of this section.

END OF SECTION

SECTION 03.20.00
CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. Conform to the General Conditions, Supplementary Conditions, and Division 1.

1.02 DESCRIPTION OF WORK

A. This section includes concrete reinforcement, placement of reinforcement for non-structural concrete for the replacement of the existing concrete wall located at the field edge of the park as well as any reinforcement for the plaza flatwork replacement for the concourse at Dehler Park after the installation of the netting poles and tie back poles.

B. Includes all materials, labor, tools, equipment, delivery, cutting, ties, and connection of new reinforcement to the existing reinforcement within the areas of work.

C. All existing rebar reinformcent that shall be tied to if required shall be inspected by Landscape Architect prior to connection and forming and pour of new concrete wall or flatwork.

1.03 RELATED SECTIONS

A. Section 03.30.00 - Cast-In-Place Concrete

1.04 RELATED DOCUMENTS (References and Standards)

A. ASTM: American Society for Testing and Materials, latest revision:

1. A 82: Standard Specification for Cold-Drawn Steel Wire for Concrete Reinforcement.

2. A 185: Standard Specification for Welded Steel Wire Fabric for Concrete Reinforcement.

3. A 615: Standard Specifications for Deformed and Plain Billet Steel Bars for Concrete Reinforcements.

B. ACI: American Concrete Institute, latest revision;

1. ACI 315: Details and Detailing Concrete Reinforcement.

2. ACI 318: Building Code Requirements for Reinforced Concrete.

1.05 CONTRACTOR QUALIFICATION REQUIREMENTS

A. NA

1.06 JOB CONDITIONS

A. NA

1.07 SUBMITTALS

A. Submit complete bar schedule, bar details and erection drawings, ir needed, in accordance with ACI 315.

B. Show each type of bar marked with identification corresponding to identification tag on bar.

C. Supplier of bar.

1.08 QUALITY ASSSURANCE (Tests and Inspection Requirements)

A. Contractor shall notify Landscape Architect for reinforcement inspection after placement, prior to the pouring of concrete.

1.09 DELIVERY, STORAGE AND PROTECTION

A. Store reinforcing steel blocked up off the ground and in orderly stacks.

B. Each stack shall contain only bars with the same identifying label.

1.10 FIELD VERIFICATION

A. Field verify existing reinforcement bar in field wall and or flatwork in slab during demolition for making connection during restoration.

1.11 WARRANTY

A. Warranty shall be for one year for labor, and materials and shall b made out to;

1. City of Billings Parks & Recreation, 309 N 29th Street, Billings, MT 59101

PART 2 – PRODUCTS

2.01 MATERIAL

A. Reinforcement Bars

1. No. 4 or larger, bars shall conform to ASTM A 615, Grade 60.

2. No. 3 bars shall conform to ASTM A 615, Grade 40.

B. Welded Wire Fabric:

1. Conform to ASTM A 185 using bright basic wire meeting ASTM A 82.

C. Bolster, Chairs and Accessories:

1. Conform to ACI 315.

2. Provide all spacers, bolsters, chairs, ties and other devices necessary to properly space, place, support and fasten reinforcement in place.

3. Metal accessories shall be galvanized or plastic-protected where legs will be exposed in finished concrete surfaces.

4. Do not use rocks, broken bricks, wood blocks, or concrete fragments for reinforcing support.

D. Testing: Perform at the mill for each heat. Forward certified test results to the Landscape Architect if required..

2.02 FABRICATION OF BARS

A. Fabricate with cold bends conforming to the recommended dimensions shown in ACI 318, Chapter 7

B. Field fabrication will be allowed only if the Contractor has equipment to properly fabricate steel.

C. Attach metal tags for identification.

PART 3 – EXECUTION

3.01 GENERAL DESCRIPTION

A. Perform reinforcement design, engineering, construction, installation and removal.

3.02 CONSTRUCTION SPECIFICS

A. Placing Metal Reinforcement

1. Place in accordance with ACI 318, Chapters 7 and 12.

2. All reinforcement steel must be tied securely with 16 gauge or larger annealed iron wire, in accordance to clearance guidelines and proper location per drawing.

3. Place steel with concrete cover in accordance with ACI 318, Chapter 7, Paragraph 7.7, unless otherwise indicated.

4. Splice steel not less than 30-bar diameter for ASTM A 615, Grade 40, and 43-bar diameter for ASTM A 615, Grade 60, unless otherwise indicated. For plain bars, splice not less than twice that deformed bars.

5. Lap welded wire fabric not less than the length of one mesh.

END OF SECTION-

SECTION 03.30.00
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. Conform to the General Conditions, Supplementary Conditions, and Division 1.

1.02 DESCRIPTION OF WORK

A. This section includes materials and proportioning of cast-in-place concrete and general cast-in-place concrete requirements for the new netting poles and the replacement of concrete work associated with the Dehler Park Netting Upgrades project.

B. Cast in place concrete flatwork in the plaza area of the stadium after the installation of the footings and netting poles.

C. Also includes the repair to the existing concrete retaining wall due to the installation of the footings for the netting posts. Shall include form and rebar of the wall if replaced.

D. Shall include all labor, materials, forming, equipment and miscellaneous materials to complete the installation of the work.

E. Shall also include the concrete for the footings for the netting poles and tie back poles

1.03 RELATED SECTIONS

A. Section 03100, Concrete Formwork.

B. Section 03200, Concrete Reinforcement.

1.04 RELATED DOCUMENTS (References and Standards)

A. ASTM: American Society for Testing and Materials, latest revision:

1. ASTM C 94: Standard Specification for Ready-Mixed Concrete.

2. ASTM C 171: Standard Specification for Sheet Materials for Curing Concrete.

3. ASTM C 309: Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.

4. ASTM C 494: Standard Specification for Chemical Admixtures for Concrete.

5. ASTM C 618: Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.

6. ASTM D 1751: Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

B. ACI: American Concrete Institute, latest revision;

1. ACI 301: Specifications for Structural Concrete for Building.

2. ACI 304: Guide for Measuring, Mixing, Transporting and Placing Concrete.

3. ACI 305: Hot Weather Concreting.

4. ACI 306: Cold Weather Concreting.

5. ACI 308: Standard Practice for Curing Concrete.

6. ACI 309: Standard Practice for Consolidation of Concrete.

C. NRMCA: National Ready Mix Concrete Association, latest revision:

1. Certificate of Conformance for Concrete Production Facilities.

D. Comply with ACI 301 requirements for concrete mixtures

E. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data bases, as follows:

1. Compressive Strength (28 Days): 3000 psi

2. Slump: 4 inches

1.05 CONTRACTOR QUALIFICATION REQUIREMENTS

A. NA

1.06 JOB CONDITIONS

A. Dehler Park is an existing facility with existing concrete flatwork and retaining walls to which this new work will be required to replace and amend.

1.07 SUBMITTALS

A. Submit a job mix formula to the Landscape Architect at least 15 days prior to delivery of concrete to the job site.

B. Job mix formula shall be submitted on form 1, attached.

C. Upon approval of the job mix formula, the batch plant shall apply a mix identification number to the mix. This number shall become the identifying designation of that mix and, as such, shall be used in all references to that mix.

D. Concrete delivered to the job site shall be accompanied by a delivery slip bearing the assigned mix identification number.

E. The Landscape Architect may require a new job mix formula if unsatisfactory results occur.

1.08 QUALITY ASSSURANCE (Tests and Inspection Requirements)

A. The NRMCA certifies plants which can demonstrate that their facilities are capable of furnishing good concrete. The system permits a qualified plant to display a Certificate of Conformance which assures the purchaser that the physical capability of furnishing good concrete is available.

B. For plants which are certified by NRMCA, compliance will be assumed for production facilities within the limits set forth by ASTM C 94. Applicable sections for ASTM C 94 are as follows: 8. Measuring Materials, 9. Batching Plant, 10. Mixers and Agitators, 11. Mixing and Delivery, and 12. Use of Nonagitating Equipment. These sections provide assurance of facilities that are capable of furnishing good concrete.

C. All production facilities (scales, misers, trucks, storage bins, conveyors, etc.) shall be continuously maintained in good working condition.

D. Use only concrete plants complying with the ASTM C 94 or NRMCA minimum standards.

1.09 DELIVERY, STORAGE AND PROTECTION

A. Store reinforcing steel blocked up off the ground and in orderly stacks.

B. Each stack shall contain only bars with the same identifying label.

1.10 FIELD VERIFICATION

A. NAd

1.11 WARRANTY

A. Warranty on labor and materials shall be made to;

1. City of Billings Parks & Recreation, 309 N 29th Street, Billings, MT 59101

PART 2 – PRODUCTS

2.01 MATERIAL

A. Concrete in a Freshly-Mixed and Unhardened State

1. Concrete in a freshly-mixed and unhardened state shall comply with ASTM C 94 except as expressly and specifically modified and designated herein. Modifications and designations shall be as follows:

a. Cement (See ASTM C 94 4.1.1) shall contain not more than 0.80 percent total alkalies (Na20_0.658 K20)

b. Pozzolan shall conform to ASTM C 618 Class F or Class C. A certificate of Compliance shall be provided on request. Total weight of Pozzolan shall not exceed 18 percent of the weight of cement.

c. Quality of Concrete (see ASTM C 94 5.1):

CLASS:	3000- 1 ½
Size of coarse aggregate, inches .	1 ½
Slump, inches	4
Entrained air, percent +/- 1 ½%	4.5
Alternate for determining proportions	3
Compressive Strength, PSI	3000
Age, days	28
Probability of tests falling below specified strength, one out of	5
Minimum content of cement plus pozzolan lbs. Per c.y.	570

Admixtures – Water reducing admixtures conforming to ASTM C 494, Type A or D will be permitted at Contractor's option.

d. All concrete for the work shall be Class 3000- 1 ½ unless otherwise shown on the drawings.

B. Joint Fillers

1. Joint Fillers shall comply with ASTM D 1751

C. Grout

1. Metallic: One of the following, or equal, for general applications:

a. "Embeco" (Master Builders Company)

b. "Ferrolith G" (Sonneborn Building Products, Inc.)

c. "Ferrotex" (National Pulverized Metals, Co., Chicago, Il.)

2. Non-Metallic: One of the following, or equal, for setting base plates:

a. "Five Star Grout" (U.S. Grout Corp.)

b. "Sealtight 588" (W.R. Meadows, Inc.)

c. "Upcon" (The Upcon Co.)

d. "Masterflow 928" (Master Builders Company)

3. Epoxy: One of the following, or equal, for setting equipment:

a. "Sika-Dur Hi-Mod", "Cement Epoxy" (Sika Chemical Corp.)

b. "Five Start Epoxy Grout" (U.S. Grout Corp.)

c. "Ceilcote 648CP" (Ceilcote Co.)

D. Curing Material

1. Liquid Membrane Curing Compound: ASTM C 309, Type 2, formulated to be removable after 28 days, and guaranteed not to affect the bond of applied finishes.

2. Polyethylene Sheeting: Of approved manufacture, 4 mils thick.

3. Reinforced Building Paper: ASTM C 171.

E. Attach metal tags for identification.

PART 3 – EXECUTION

3.01 GENERAL DESCRIPTION

A. Placement of all Cast-In-Place Concrete within walls, flat work, and all other Cast-In Place Concrete within the contract documents.

3.02 CONSTRUCTION SPECIFICS

A. Preparation

1. Clean existing concrete surfaces thoroughly before placing abutting fresh concrete.

B. Concrete Placement, Consolidation, Curing and Protection

1. Concrete shall be placed, consolidated, cured and protected in accordance with American Concrete Institute recommended practice. The following ACI standards and reports are guides to good practice and shall be used by the Contractor:

a. ACI 304: Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.

b. ACI 305: Hot Weather Concreting

c. ACI 306: Cold Weather Concreting

d. ACI 308: Recommended Practice for Curing Concrete

e. ACI 309: Recommended Practice for Consolidation of Concrete

DEHLER PARK NETTING UPGRADES
FORM 1
JOB MIX FORMULA (READY-MIXED CONCRETE)

Contractor's Name _____

Supplier Name _____

Batch Plant Location _____

Cement Type _____

Pozzolan Type _____

Sand Type _____

Coarse Aggregate Type _____

Maximum Size of Coarse Aggregate _____

Entrained Air (%) _____

Water Reducing Agent _____

Slump (Inches) _____

PROPORTIONS

Water				Gal/C.Y.		Lbs/C.Y.
Cement				Bags/C.Y		Lbs/C.Y.
Pozzolan			%	% of Cement		Lbs/C.Y.
Sand	Size 1		%	% of Total Aggregate		Lbs/C.Y.
	Size 2		%	% of Total Aggregate		Lbs/C.Y.
C.A.	Size 1		%	% of Total Aggregate		Lbs/C.Y.
	Size 2		%	% of Total Aggregate		Lbs/C.Y.
	Size 3		%	% of Total Aggregate		Lbs/C.Y.
				Total Weight		Lbs/C.Y.
				Unit Weight		Lbs/C.F.

END OF SECTION-

SECTION 11.63.53
ATHLETIC FACILITY SITE FURNISHINGS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. Conform to the General Conditions, Supplementary Conditions and Division 1.

1.02 DESCRIPTION OF WORK

A. Work shall include the providing and installation of new products listed below. Includes all materials equipment, and services to install all listed items.

B. Furnish all material, labor, services and related items required to complete work indicated on Drawings and specified herein. The items of work to be performed shall include but may not be limited to the following; installation of new netting tie back steel poles, small front poles along wall, attachment points, cables for netting, netting and all materials for attach and install the upgraded netting system.

C. Alternate Bid #1 shall be backstop netting of #18 Dyneema Backstop netting, from Homeplate side of 1st base dugout to Homeplate side of 3rd base dugout and #36 Knotted Nylon from dugout, Homeplate side, to end of both 3rd base and 1st base sidelines.

1.03 RELATED SECTIONS

A. Section 02.10.00 – Demolition

B. Section 03.30.00 – Cast in Place Concrete

1.04 RELATED DOCUMENTS (References and Standards)

A. American Sports Builders Association, (ASBA)

1.05 CONTRACTOR QUALIFICATION REQUIREMENTS

A. Not applicable for this project.

1.06 JOB CONDITIONS

A. All equipment is new and to be protected during installation of concrete mixtures, and installation of tall netting poles, cables, and netting fabric.

B. Existing backstop netting and posts shall be removed and replaced with new tie back netting system per plans.

C. Existing concrete plaza areas shall have concrete flatwork removed and replaced after placement of new tie back poles.

D. Stuctural foundations are design build by the netting pole suppliers, and preliminary

structural design has been completed by the listed suppliers. Contact the suppliers for information for pier foundations.

1.07 SUBMITTALS

A. Submit all shop documents, drawings and proper certificates. All shall meet proper governing rules. All substitutions must be approved by Owner and Landscape Architect.

B. Shop drawing for shorter vertical poles to be installed along existing concrete wall located along field edge. Reuse of existing square tube steel is acceptable for this posts.

C. Sample of applicable, nets, posts, rings, materials for approval by the owner.

D. Signed stamped structural footing design shall be submitted for building permit application.

E. Warranty for all equipment.

1.08 QUALITY ASSURANCE (Tests and Inspection Requirements)

A. All furnishings shall be inspected prior to installation for shipment damage

1.09 DELIVERY, STORAGE, AND PROTECTION

A. Equipment shall be delivered, and inspected prior to acceptance from trucking company. Contractor is responsible for equipment that is damaged, broken, or otherwise unusable to the owner, at no expense to the owner.

B. All products shall be stored as per manufacturers recommendations.

C. Contractor is responsible for offload and protection of netting posts during off load and installation and shall protect and touch up if necessary after installation.

1.10 FIELD VERIFICATION

A. Landscape Architect will field verify that all equipment is per plans and specifications prior to installation. Notify Landscape architect 48 hours prior to installation for inspection and approval.

1.11 WARRANTY

A. Warranty information shall be written and assigned to the owner of project;

1. City of Billings Parks and Recreation, 309 N 23rd St, Billings, MT 59101

PART 2 – PRODUCTS

2.01 BAKSTOP NETTING MANUFACTURERS

A. Backstop netting poles shall be steel and shall be sized to accommodate the necessary length and size of the tie back netting behind home plate and down the sidelines to the foul poles. Final exact locations are to be determined by the manufacturer and there structural engineer responsible for post design/size/height and footing design.

B. All tie back poles, end poles and smaller poles located along the infield concrete wall shall be designed for size, height, footing depth/size, cables, nets, and allow for proper wind load, icing and proper structural requirements.

C. Approved netting pole system manufacturer shall be, or approved equal;

1. Sports Field Specialties, Delhi, NY, Michael Mercadante, (607)437-9750

2. Sports Edge, Troutman, NC - Elijah Harris, (912)650-9890

3. Unlimited Sports Solutions, Waverly, NE, Tim Peterson (531)207-9331

D. All poles large and small shall be black in color and painted with Direct to metal (DTM) paint and primer prior to installation.

1. Paint shall be Sherwin Williams DTM or approved equal, provide information during submittal. Shall include primer and final paint/

2. Contractor shall apply two coats per manufacturer instructions.

E. All welded points for any needed gusset plate or anchor points shall be approved by manufacturer and included in structural design of the poles

F. Tie-Back Tension Ball Safety Netting System Wire Rope Support Structure:

1. Length, Height and Configuration as Required

2. 6 x 25 IWRC Galvanized Wire Rope - 5/8” Diameter Main Horizontal Support, 37,000 lb. Minimum Breaking Strength, 12,333 lb. Minimum Working Load Limit

3. 7 x 19 GAC Galvanized Aircraft Cable - 3/8” Diameter

4. Tie-Back Support, 14,400 lb. Minimum Breaking Strength, 4,800 lb. Minimum Working Load Limit

5. 7 x 19 GAC Galvanized Aircraft Cable - 1/4” Diameter Vertical and Bottom Horizontal Supports, 7,000 lb. Minimum Breaking Strength, 2,333 lb. Minimum Working Load Limit

6. Hot Dipped Galvanized Attachment and Assembly Hardware - Quantities, Sizes and Configurations as Required

G. Tie-Back Tension Ball Safety Netting System Net and Rope Bound Border:

1. Length, Height and Configuration as Required

2. Base Bid; #18 Dyneema, or equal, for backstop netting from Homeplate side of dugout on 1st base to Homeplate side dugout on 3rd base.

3. Base Bid; #18 Dyneema, or equal, netting from dugout to end of netting on both first and third base sides of netting runs.

4. Alternate Bid Item #1: #36 Knotted Nylon shall be used on both 1st and 3rd base line netting from dugout, Homeplate side, to end of netting system as indicated on bid form.

H. Backstop Dyneema Netting

1. #18 Knotless Dyneema netting, or approved equal.

2. 1 ¾" square Mesh Size,

3. 1.69mm (0.067 inches) diameter

4. 142.9 Kg(383 lbs.) Breaking Strength

5. Color Black

6. Fully laced all sides and vertical cables at change of angles.

I. Nylon Netting For Sideline Netting

1. 100% Nylon Construction

2. 2.6 mm (0.1023") Diameter Twine

3. 87% Open Mesh Area (See-Through Visibility)

4. 13,363 psi Minimum Breaking Strength

5. 1-3/4" (44 mm) Square Mesh Size, 0.0425 lbs. per Square Foot

6. Black Multi-Filament Polypropylene Solid Braid Derby Rope Sewn Binding on Perimeter Edges - 1/4" Diameter, 530 lb. Minimum Breaking Strength UV and Weather Treated

7. Laced only on bottom horizontal cable along existing concrete wall.

J. Carabiners Sideline Line Netting

1. Sideline netting attachment for the upper cable shall use carabiners

2. 7mm in size

3. Attached 24” OC for sideline netting upper attachment.

K. Vertical Poles along Infield Wall shall be reused square tube steel poles currently installed on top of the dugouts. These can be cut to height and reused with new steel brackets to fit over existing concrete wall and drilled to install bolts. Paint all new welded brackets and existing posts black in color as per these specifications.

1. Reuse of existing poles cut to length is acceptable for this work. Provide shop drawing for welded bracket for poles.

PART 3 – EXECUTION

3.01 EQUIPMENT PROTECTION

A. All coatings and equipment shall be removed and handled off delivery trucks and onsite with care so as to not damage the powder coating on products.

B. Verify all products prior to acceptance from freight company for damage to equipment during delivery.

C. Contractor shall photograph all damaged equipment prior to acceptance from freight company.

D. Protect all existing wall padding during installation.

3.02 FOOTING INSTALATION

A. Call for locate prior, and paint markings shall be made with UV degrading paint on all concrete plaza areas, and locate shall be prior to any demolition or excavation work.

B. Contractor shall have the netting pole supplier provide the structural design for the netting poles and tie back poles as well as footing design for the poles

C. Footing details and design shall be signed and stamped by a licensed MT engineer. Provide as shop drawings per section 1.07 of this specification section for permitting of footing per City of Billings.

D. Soils from excavation shall be placed in parking lot beyond right field and will be disposed of my City of Billings Parks and Recreation.

E. Ensure proper protection of existing concrete plaza with the installation of all poles and foundations.

F. Restoration of any damage to grass infield shall be responsibility of the general contractor.

3.03 INSTALLATION POLES AND NETTING

A. Backstop Netting poles and tie back netting poles and all footings shall be installed per manufacturers requirements

B. All smaller poles for along front field concrete wall shall be designed and installed with anchor bolted to existing concrete wall. Contractor shall replace wall padding after installation of small poles for netting.

C. Install and replace all concrete flatwork in plaza areas and or beyond the foul lines for end poles if required to be removed in design of netting system.

D. All poles shall be black in color and any marks, scratches, dings of damage to poles shall be re painted after installation.

E. Install all cables and netting per manufacturer instructions for allowing for proper ice load breakaway.

F. All Vertical cables for change of direction of netting shall be installed and attached to anchor eye bolt installed in concrete wall. Netting shall be attached to vertical cable per manufacturers installation instructions.

G. Horizontal small cable shall be installed along existing concrete wall along field edge and shall stop at all access points to field and then continue.

H. Netting along front of dugouts shall be attached to top rail of dugout railing shall be laced to dugout railing.

I. Backstop netting from dugout to dugout, behind Homeplate, shall be fully laced with twine on lower and upper cables and all vertical cables.

J. Long Sideline nettings from dugout to foul poles shall be laced on lower cable along the existing wall and up vertical cables

K. Sideline netting upper section of netting can be connected with carabiner 24” OC to main upper horizontal cables, per manufacturer instructions.

L. Shall include all equipment, and materials for the installation of all components

3.04 CLEAN UP

A. All packaging and materials from the installation shall be removed and disposed of per the general conditions of the project.

B. Re install all existing wall padding after netting installation where pads need to be removed for short vertical poles along concrete wall for anchor bolts and or dugout railings.

END OF SECTION

SECTION 32.92.19
SEEDING/SOD

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. Conform to the General Conditions, Supplementary Conditions, and Division 1.

1.02 DESCRIPTION OF WORK

A. Installation of sod for the repair of existing infield or outfield sod after the installation of netting poles and footings and repair of concrete work associated with the Dehler Park Netting upgrades.

B. Furnish all material, labor, services and related items required to complete work indicated on Drawings and specified herein. The items of work to be performed shall include but may not be limited to the following; seeding, topsoil prep for sod, and sod installation.

1.03 RELATED SECTIONS

A. NA

1.04 RELATED DOCUMENTS (References and Standards)

A. N/A

1.05 CONTRACTOR QUALIFICATION REQUIREMENTS

A. Herbicide, Pesticide, Fertilizer Application & Qualifications

1. Applications of herbicide for weed control as may be required shall be made only by an applicator licensed under Washington State Law and as approved by the Landscape Architect.

2. Provide protective cover and barriers as necessary to prevent damage and staining to all site improvements and off-site structures, facilities and property.

3. Contractor shall comply with the State Law and notify Owner with a 72 hour notification to Owner, staff and public to all herbicide or pesticide applications. Pesticides and herbicides will be limited to those approved by City of Billings Parks and Recreation department.

1.06 JOB CONDITIONS

A. Contractor shall familiar themselves with the existing conditions and site for the infield and outfield areas of Dehler park that may be affected by the movement of equipment, or installation of footings and concrete work for the project.

B. Any damage done to existing structures and conditions shall be repaired at no cost to the owner.

1.07 SUBMITTALS

A. All submittals shall be submitted to the General Contractor and the Landscape Architect after “notice to proceed”.

B. Guaranteed analysis of seed mix.

C. Guaranteed analysis of fertilizer.

D. Contractor shall provide all seed tags after installation.

E. Supplier for Sod for installation.

1.08 QUALITY ASSURANCE (Tests and Inspection Requirements)

A. N/A

1.09 DELIVERY, STORAGE, AND PROTECTION

A. Seed or sod materials shall be delivered in conjunction with the work to occur.

B. Materials delivered more than 24 hours prior to sod installation on site shall be stored in a a shaded area if possible in the outfield parking lot or parking lot storage area if not installed same day as delivery.

C. Any materials delivered and goes dry prior to placement, warranty replacement shall be the responsibility of the contractor during the warranty period.

1.10 FIELD VERIFICATION

A. NA

1.11 WARRANTY

A. The guarantee of all seeded areas under this Contract shall be for one full year from the completion date of final acceptance. Although not responsible for maintenance, the Contractor should, for his own interest, assure himself that minimum care is being given to the seeded areas, as he is liable for its health during the guarantee period. At the conclusion of the guarantee period, the Landscape Architect will make another inspection to determine the condition of the turf. All areas of turf not in a healthy growing condition, as determined by the Landscape Architect, shall be reseeded with seed as originally planted. Such replacement shall be made in the same manner as specified from the original plantings, and at no extra cost to the Owner. The guarantee on turf shall be limited to one replacement. The Contractor is not responsible for vandalism after final acceptance.

1. Warranty shall be made out to, City of Billings Parks and Recreation, 309 N29th Street, Billings, MT 59101

PART 2 – PRODUCTS

2.01 SOD

A. Sod shall be a no net sod. Locally grown in organic topsoil, not clay material.

B. Sod shall be installed in large roll format, not small squares allowed in the stadium.

C. Sod shall be delivered to jobsite within 24 hours of being cut by supplier.

1. Supplier shall be Teveten Turf, Billings, Montana 59101

2.02 FERTILIZER

A. Commercial fertilization mix 10-20-20 applied at the rate of 430 pounds per acre.

2.03 WATER

A. Water shall be free from oil, acid, alkali, salt and other substances harmful to growth of grass, and shall be from a source approved prior to use.

PART 3 – EXECUTION

3.01 PLANTING SEASON

A. Seeding shall be completed by approximately May 10th, 2025. Actual planting shall be performed only when weather and soil conditions are suitable and in accordance with locally accepted practice. Seeding shall not be attempted when wind velocities would prevent uniform application or when winds would drift the material outside the areas to be seeded.

3.02 FINISH GRADING

A. Finish grade shall match and be 1” below top of all warning tracks, infield mix and or hardscape, sidewalks if needed.

B. Finished grade shall be free of all rocks and debris.

C. All areas must be graded smoothly prior to seeding, free of tire marks, ruts, swales and ridges.

3.03 RESEEDING

A. Any areas which are bald after the first 30 days shall be replanted as specified by the Contractor at no additional cost to the Owner, during the time frame specified herein.

3.04 IRRIGATION CLOCK ADJUSTMENT

A. Contractor to adjust the irrigation clock for all run times according to weather and seed establishment period for the project.

B. Coordinated adjustment with Dehler Park Staff and City of Billings Parks and Recreation prior to changing of clock schedules.

3.05 CLEAN UP

A. All seeding and sod equipment shall be removed and cleaned off site. Dispose of any and all debris, residual and materials from clean up off site.

B. All debris and materials for the installation of sod and seeding shall be removed from the job site at the contractor's expense.

END OF SECTION

GEOTECHNICAL INVESTIGATION REPORT
PROPOSED COBB FIELD STADIUM
BILLINGS, MONTANA

May 15, 2007
Project No. 06-194-04

Prepared for:

CTA Architects Engineers
PO Box 1439
Billings, MT 59103

Prepared by:

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

May 15, 2007

CTA Architects Engineers
PO Box 1439
Billings, MT 59103

Attention: Mr. Jim Wertman

SUBJECT: Geotechnical Investigation Report
Proposed Cobb Field Stadium
Billings, Montana

Dear Mr. Wertman:

The attached report presents the results of our geotechnical investigation for the proposed Cobb Field Stadium to be located on the northeast corner of 9th Avenue North and 27th Street North in Billings, Montana. Our work consisted of subsurface exploration, laboratory testing, engineering analyses, and preparation of this report. A preliminary report was completed in November 2005 for the City of Billings Parks and Recreation Department. This report contains the boring logs and test results from the preliminary study.

Based on our work completed to date, we have drawn the following general conclusions:

- Site soils encountered in our field investigation consisted of a varied surface layer which consisted of sod, asphalt, topsoil and some areas which contained fill consisting lean clay that ranged in depth from 2 to 3 feet. The underlying native soils consisted of layers of lean and fat clay ranging in depth from 7.5 to 18.0 feet below existing site grades. Below the lean/fat clay we encountered gravel with sand that started at depths ranging from 7.5 to 17.5 feet below existing site grades depending on the location on the site. The gravel with sand was underlain by weathered shale which was encountered in four of the borings at depths ranging from 21.5 to 33 feet below the existing site grades. The shale encountered was highly weathered at the gravel with sand and shale interface and became more competent with depth. Piezometers were installed in four of the borings for future groundwater monitoring. Groundwater was encountered at depths ranging

from 9.6 to 21.5 feet below existing site grades in all of the borings during our investigation.

- With the exception of the stadium, shallow foundations may be used to support the structural loads for the concession pavilion and team buildings. Due to the soft lean and fat clay soils, we are recommending these buildings use a monolithic structural slab-on-grade with turned down footings. These foundations will require over excavation and recompaction with structural fill.

- The structural loads for the stadium will require deep foundations. Due to the soft soil layers and groundwater elevations, we are recommending using driven H-piles extending to the shale bedrock layer.

- If utility invert elevations approach the gravel with sand layer, dewatering may be required for installation. Our scope of services did not include the design of a dewatering system or its influence on adjacent structures. If dewatering is required, it should be designed by a competent engineer with experience designing dewatering systems.

These and other conclusions and recommendations, along with restrictions and limitations on these conclusions, are discussed in the attached report.

We appreciate this opportunity to be of service to you, and look forward to future endeavors. If you have any questions regarding this report or need additional information or services, please feel free to call the undersigned.

Sincerely,
RIMROCK ENGINEERING, INC.

Robert W. Kukes, P.E.
Principal

Wade K. Reynolds
Staff Geologist

Enclosures: Report (3 Bound)

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GEOTECHNICAL INVESTIGATION REPORT
PROPOSED COBB FIELD STADIUM
BILLINGS, MONTANA

1.0 INTRODUCTION AND SCOPE

1.1 Project Description

This report presents the results of our geotechnical investigation for the proposed Cobb Field Stadium to be located on the northeast corner of 9th Avenue North and 27th Street in Billings, Montana. The site location is shown on the attached Vicinity Map (Plate 1). We understand that the project will include demolition of the existing stadium and the construction of a new stadium with two team locker room buildings, concession pavilion, an administration building and associated parking. The new proposed field will be 4 to 6 feet lower than the existing field. It is not anticipated that earthwork to level the site will require cuts or fills of more than 6 feet, except in landscape areas.

Structural loads were provided CTA Architects Engineers. Estimated vertical structural loads are not expected to exceed 3 to 4 kips per linear foot along continuous wall foundations for long-term loading conditions for the locker rooms, admin building and concession buildings. The column loads for the stadium vary and range from 150 to 200 kips. Cuts and fills for building pad construction are anticipated to be typically on the order of 3 feet. The site is currently the existing stadium and parking. The western portion of the site was the site of an existing swimming pool which is in the process of being removed.

1.2 Purpose and Scope of Work

The purpose of this study is to evaluate the feasibility of the proposed development with respect to the observed subsurface conditions, and to provide our geotechnical recommendations and opinions as outlined in our proposal dated March 9, 2007, and summarized below.

- General soil and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction;

- Suggested specifications for earthwork construction, including site preparation recommendations, a discussion of reuse of existing near surface soils as structural or non-structural fill, and a discussion of remedial earthwork recommendations, if warranted;

- Recommendations for temporary excavations and trench backfill;

- Conventional shallow spread foundation design including soil bearing values, minimum footing depth, resistance to lateral loads and estimated settlements;

- Recommendations for deep foundation design including estimated depths and soil or rock bearing values;

- Concrete reactivity potential of site soils; and

- Subgrade preparation for slab-on-grade concrete

Our scope of services consisted of background review, site reconnaissance, field exploration, laboratory testing, engineering analyses, and preparation of this report. This study did not include evaluations of site seismicity, liquefaction, faulting, or other potential geologic or environmental hazards.

1.3 Authorization

Authorization to proceed with our work on this project was provided on March 16, 2007.

1.4 References

The following information was provided to Rimrock Engineering in the course of this study and serves as the basis of our understanding of the project type and scope.

- A preliminary site plan by CTA Architects Engineers showing the proposed location of the stadium and buildings on the site as well as the existing structure and boring locations. This drawing was the basis for the Site Map shown on Plate 2 of this report.

- Google Earth Maps (2007) Billings, Montana – Yellowstone Co. These satellite images were the basis for the Vicinity Map shown on Plate 1 of this report.

- Site photo by Rimrock Engineering showing the swimming pool demolition area. The photo is shown on Plate 3 of this report.

2.0 METHODS OF STUDY

2.1 Field Exploration

Our selection of field exploration locations was provided by CTA Architects Engineers, the City of Billings, Parks and Recreation Department and located by Rimrock Engineering, Inc. and was based on the anticipated project layout and site access. The subsurface exploration consisted of drilling twelve (12) test borings in the proposed construction area using a drill rig equipped with hollow stem and solid stem augers. Boring depths ranged from 15 to 40 feet below the existing ground surface. Locations of the borings shown on the Site Map (Plate 2, Appendix A) were located by Rimrock Engineering, Inc. by measuring from the adjacent streets. These locations should be considered accurate only to the degree implied by the method used.

Soil conditions encountered are presented on the boring logs which are included as Plates 4 through 15. A description of the Unified Soil Classification System used to identify the site soils and a boring log legend are presented on Plates 16 and 17 (Appendix A).

Rimrock Engineering personnel logged the soil conditions exposed in the borings and collected relatively undisturbed Shelby tube samples and driven penetration samples for laboratory testing. Soil samples were obtained by driving a 2-inch ID, Standard Penetration Sampler, into the bottom of the boring. The number of blows required to drive the last 12 inches of an 18-inch drive with a 140-pound hammer dropping 30 inches is recorded as the blows per foot (Blow Count) on the boring logs. When the sampler was withdrawn from the boring, samples were removed, examined by field personnel, labeled and sealed to preserve the natural moisture content for laboratory testing. After borings were completed, they were checked for groundwater and backfilled with excavated soil using the equipment at hand.

2.2 Laboratory Testing

Laboratory testing is useful for evaluating both index and engineering properties of soils. Typical index tests evaluate soil moisture content, soil particle gradation and plasticity characteristics. We performed laboratory testing on selected soil samples to assess the following:

- Soil Classification (ASTM D422, D1140, and D4318)
- Unit Weight and Moisture Content (ASTM D2937 and D2216)
- Consolidation (ASTM D2435)

In addition, the following analytical tests were performed by Northern Analytical Laboratories.

- Soluble Sulfate Content

Individual laboratory test results can be found on the boring logs and on Plates 18 through 20, Appendix A, at the end of this report.

3.0 DISCUSSION

3.1 Site Conditions

Access to the project site is provided by 9th Avenue north. The project encompasses an entire city block and is surrounded by commercial and residential properties. The site is presently the site of the existing Cobb Field Stadium Complex. The ground surface in the area of the proposed building appears to slope gradually to the southeast. A total relief of less than four feet is currently present at the entire project site. Drainage on the site consisted of natural infiltration, sheetflow to the southeast and drainage into the existing storm water system.

3.2 Subsurface Conditions

The following paragraphs summarize the results of our field exploration. The boring logs should be reviewed for a more detailed description of the subsurface conditions at the locations explored.

- Site soils encountered in our field investigation consisted of a varied surface layer which consisted of sod, asphalt, topsoil and some areas which contained fill consisting lean clay that ranged in depth from 2 to 3 feet. The underlying native soils consisted of layers of lean and fat clay ranging in depth from 7.5 to 18.0 feet below existing site grades. Below the lean/fat clay we encountered gravel with sand that started at depths ranging from 7.5 to 17.5 feet below existing site grades depending on the location on the site. The gravel with sand was underlain by weathered shale which was encountered in four of the borings at depths ranging from 21.5 to 33 feet below the existing site grades. The shale encountered was highly weathered at the gravel with sand and shale interface and became more competent with depth.

Groundwater was encountered in the borings at depths ranging from 9.6 to 21.5 feet during our exploration (November 2005 and May 2007). Piezometers were installed in four of the borings. Water levels in three of the preliminary borings were monitored for eight months at the request of the City of Billings, Parks and Recreation Department. Fluctuations in the level of the groundwater and soil moisture conditions as noted in this report may occur due to variations in precipitation, land use, irrigation, and other factors.

3.3 Laboratory Test Results

Laboratory testing was performed as previously discussed in Section 2.2. The test data were evaluated in combination with our field exploration information to assess the engineering properties of the predominant soil types. Atterberg limits tests indicated the clay has a moderate to high plasticity, while the consolidation tests indicated a moderate to high compressibility and low swell potential. The sulfate content test results indicated that the soils have a severe potential for concrete reactivity.

3.4 Analytical Methods

Field and laboratory data are useful when combined with engineering fundamentals to assess specific behavior such as bearing capacity, settlement, and other design parameters. The following approaches were used in developing the conclusions and recommendations presented in subsequent sections of this report.

- Allowable bearing pressures were computed using Terzaghi's general bearing capacity formula.

- Settlements were computed using classical consolidation theory where fine-grained soils were present.

4.0 CONCLUSIONS

The following conclusions are based on the data collected during this assessment and are subject to the limitations stated in this report. These conclusions may change if additional information becomes available. Based on the results of our study, no severe soil or groundwater constraints were observed which would preclude development. The following is a summary of our conclusions.

- Site soils encountered in our field investigation consisted of a varied surface layer which consisted of sod, asphalt, topsoil and some areas which contained fill consisting lean clay that ranged in depth from 2 to 3 feet. The underlying native soils consisted of layers of lean and fat clay ranging in depth from 7.5 to 18.0 feet below existing site grades. Below the lean/fat clay we encountered gravel with sand that started at depths ranging from 7.5 to 17.5 feet below existing site grades depending on the location on the site. The gravel with sand was underlain by weathered shale which was encountered in four of the borings at depths ranging from 21.5 to 33 feet below the existing site grades. The

shale encountered was highly weathered at the gravel with sand and shale interface and became more competent with depth. Piezometers were installed in four of the borings for future groundwater monitoring. Groundwater was encountered at depths ranging from 9.6 to 21.5 feet below existing site grades in all of the borings during our investigation.

- With the exception of the stadium, shallow foundations may be used to support the structural loads for the concession pavilion and team buildings. Due to the soft lean and fat clay soils, we are recommending these buildings use a monolithic structural slab-on-grade with turned down footings. These foundations will require over excavation and recompaction with structural fill.

- The structural loads for the stadium will require deep foundations. Due to the soft soil layers and groundwater elevations, we are recommending using driven H-piles extending to the shale bedrock layer.

- If utility invert elevations approach the gravel with sand layer, dewatering may be required for installation. Our scope of services did not include the design of a dewatering system or its influence on adjacent structures. If dewatering is required, it should be designed by a competent engineer with experience designing dewatering systems.

Specific recommendations for project design and construction including mitigation of potential problems described above are presented in Section 5.0.

5.0 RECOMMENDATIONS

5.1 Site Clearing and Preparation

Prior to construction, surface vegetation and organic soils should be stripped and removed from the site or stockpiled for use in non-structural areas. It appears about 6 inches can be used as a reasonable estimate for average depth of stripping. Deeper stripping/grubbing of organic soils, tree roots, etc., may be required in localized areas. Tree root balls should be removed and the resulting voids backfilled with adequately compacted backfill soil. All man-made debris including dumped fills or trash should be removed from the site. **Old foundations, sidewalks, and abandoned utilities must be removed from the site prior to new construction.** The geotechnical engineer should be present during stripping and site preparation operations to observe stripping and grubbing depths, and to evaluate whether buried obstacles such as

underground utilities, wells, and foundations are present. Excavations resulting from removal operations should be cleaned of all loose material and widened as necessary to permit access to compaction equipment.

5.2 Earthwork

5.2.1 General Site Grading

Site preparation and grading should conform to the requirements contained in this report and in the suggested specifications which are provided as Appendix B of this report. We anticipate that site grading can be performed with conventional earthmoving equipment. Prior to fill placement, the exposed native soils should be scarified to a minimum depth of six inches, moisture conditioned as necessary, and compacted to a minimum of 95% relative compaction in accordance with the ASTM D698 compaction test method.

Where fill is necessary, materials should meet the gradation and plasticity requirements listed for “structural fill” in Appendix B. It appears that the existing near surface clay soils are not generally be capable of meeting recommended requirements for structural fill. Fill placement and compaction requirements presented in Appendix B should be followed.

The near surface soils appear to be relatively soft and at a high enough moisture content that pumping of subgrade soils under equipment loading may be a problem, particularly if excavations extend near to the groundwater level. This might require the use of a geotextile for stabilization, the use of small equipment, or other methods to prevent pumping.

5.2.2 Temporary Unconfined Excavations

The contractor is ultimately responsible for the safety of workers and should strictly observe federal and local OSHA requirements for excavation shoring and safety. All temporary slopes should comply with OSHA requirements for Type A soils. During wet weather, runoff water should be prevented from entering excavations.

5.2.3 Temporary Trench Excavation and Backfill

It appears that excavation for footings and utility trenches can be readily made with either a conventional backhoe or excavator in the native soil. We expect the walls of the footing trenches to stand near vertically in the on-site clay soils above the groundwater table without significant sloughing. If trenches are extended deeper than five feet or are allowed to dry out, the excavations may become unstable and should be evaluated to verify their stability prior to occupation by construction personnel. Shoring or sloping of any deep trench walls may be necessary to protect personnel and provide temporary stability. All excavations should comply with current OSHA safety requirements for Type A soils. (Federal Register 29 CFR, Part 1926).

Backfills for trenches or other excavations within pavement areas should be compacted in six to eight-inch layers with mechanical tampers. Jetting and flooding should not be permitted. We recommend all backfill be compacted to a minimum compaction of 97% of the maximum dry density as determined by ASTM D698. The moisture content of compacted backfill soils should be within 2% of the optimum. Poor compaction in utility trench backfill may cause excessive settlements resulting in damage to the pavement structural section or other overlying improvements. Compaction of trench backfill outside of improvement areas should be a minimum of 90% relative compaction.

5.3 Foundations

Due to the structural loads and different project requirements, Rimrock Engineering, Inc. has investigated a variety of foundation systems for this project. We looked at shallow spread foundations on native clay and re-compacted structural fill, and deep foundations using driven piles and/or drilled piers. Due to the soil types and groundwater level, we are proposing using driven H-piles for the stadium and shallow foundations for the locker rooms, administration building and concession pavilion.

5.3.1 Shallow spread footings

The existing lean to fat clay soils on the site are medium stiff near the surface and become softer with depth. We are proposing using a monolithic structural slab-on-grade with turned down edges for the buildings other than the stadium. The monolithic concrete slab will require 1 foot of structural fill below the slab and two feet of structural fill below the turned down edges. The 2 feet of over excavation should extend two feet beyond the edge of the footings. The minimum embedment depth of the exterior turned down footings should be 18 inches below lowest adjacent exterior finished grades. Frost board should be installed around the exterior of the building for frost protection and should extend a minimum of three feet beyond the foundations.

For the monolithic slab-on-grade with turned down edges, an allowable bearing pressure of 1,500 pounds per square foot may be used. Estimated settlements for the loads provided are ¾ to 1 inch. A subgrade modulus of 100 pci may be used for design of the structural concrete slabs for the proposed masonry buildings.

Wall foundation dimensions should satisfy the requirements listed in the latest edition of the International Building Code. Reinforcing steel requirements for foundations should be provided by the design engineer.

The allowable bearing pressures, indicated above, are net values, therefore, the weight of the foundation and backfill may be neglected when computing dead loads. Allowable bearing pressures may be increased by one-third for short-term loading such as wind or seismic. Resistance to lateral loads may be calculated using an allowable passive equivalent fluid unit

weight of 180 pounds per cubic foot and an allowable coefficient of friction of 0.31 applied to vertical dead loads. Both passive and frictional resistances may be assumed to act concurrently. Effective active pressures of 40 pounds per cubic foot may be used. An at-rest pressure of 60 pounds per cubic foot may be used.

The International Building Code site class for this project is Class D.

5.3.2 Driven Pile Foundation Design

A. Axial Loads:

Based on information provided by CTA Architects Engineers, it is our understanding that column loads for this project will range from 150 kips to 200 kips. Based upon this information, we have provided pile capacities for a range of steel HP piles to allow for flexibility during design for each of the different loading situations. The steel HP piles shall be driven to practical refusal into the underlying bedrock, or to a minimum ultimate pile resistance as shown in Table I for each of the various pile sizes. A minimum factor of safety of 2.5 is recommended for piles driven into bedrock. The maximum design working load for each HP pile driven into bedrock at the project site is also given in Table I.

TABLE 1
HP PILE SIZES AND CAPACITIES

HP Size	Area, square inches	Depth - Width, inches	Pile Capacity, Tons
HP 14 x 117	34.4	14.21 -14.88	240
HP 14 x 89	26.1	13.83 – 14.69	190
HP 12 x 74	21.8	12.13 – 12.22	155
HP 12 x 53	15.5	11.78 – 12.05	110
HP 10 x 42	12.4	9.70 – 10.08	90

Pile hammers with a rated energy per blow of 22,000 ft-lbs. to 45,000 ft-lbs. are recommended for driving of the HP piles on this project depending on the size of pile selected. The pile hammer selected by the contractor should be reviewed by the geotechnical engineer prior to the start of construction.

Estimation of the depth of pile penetration into bedrock is very difficult. Based on the field and laboratory information, it is our best estimate that pile penetrations on the order of 5 to 10 feet into the shale bedrock will occur.

The 5 to 10 foot penetration into shale bedrock is based on the competency of the underlying bedrock. Flight auger refusal was encountered at a relatively shallow depth in

the underlying bedrock. However, estimating driven pile lengths for shale, or other friable sedimentary rocks, is difficult due to the tendency of the bedrock to shatter during pile driving.

It is recommended that the minimum pile spacing be 3.0 B for center-line to center-line spacing, or 2.5 B for butt spacing, whichever is greater (where B is the width of the pile). This criterion for spacing will minimize possible pile convergence at the design tip elevations, provided standard tolerances for non-vertical alignment or out-of-position location are satisfied during driving. Pile foundations driven to refusal in the underlying bedrock would be expected to have negligible settlement for the foundation loads.

B. Horizontal Loads

Based on the information obtained from the borings and the subsequent laboratory testing, the following soil parameters could be assumed for steel H-piles under horizontal loading:

TABLE 2
LATERAL PILE LOAD PARAMETERS

Soil Parameter	Soil Stratum		
	Stratum I	Stratum II	Stratum III
Consistency	Soft	Medium Dense	Hard
Soil Type	Lean to Fat Clay	Sandy Gravel	Shale
Unit Weight	95 to108 pcf	135 pcf	135 pcf
SPT (N-value)	5 to 21	30 to 50+	50+
Soil Friction Angle	22 to 25º	40^0	--
Cohesion	190 pcf	--	5000 pcf

The effects of pile group spacing on the lateral pile capacity can be estimated based on the p-multiplier concept proposed by Brown (1996). In this method, the p-y curve for an individual pile is scaled down to account for the effects of pile stress overlap and shadowing. Brown's recommended p-multiplier values for different pile group spacings are shown on Table 3:

TABLE 3 LATERAL PILE GROUP MULTIPLIERS			
Pile Spacing	**Front Row**	**2nd Row**	**3rd & More Rows**
3 diameters c-c	0.8	0.5	0.4
4 diameters c-c	0.9	0.75	0.6
5 diameters c-c	1.0	0.9	0.8

5.3.3 Driven Pile Foundation Design

Due to the relatively shallow depth to bedrock, and the nature of the soil, downdrag is not expected to be a significant factor at the Cobb Field Stadium site.

5.3.4 Driven Pile Foundation Design

Driving piles into dense soils or weathered rock can result in ground heave, which in turn can cause previously driven piles to displace upwards and reduce their axial capacity. During installation of piles at the hotel site, level readings should be taken at the top of previously driven piles to determine if any have been raised during driving of adjacent piles. If pile heave occurs, then the steel piles must be re-driven back to refusal.

It is recommended that the piles be driven from the center of the group outward. If any obstructions are encountered during pile installation that prevent adequate penetration of a pile, it may be necessary to install additional piles in order to achieve sufficient axial and lateral foundation support.

The use of driven piles assumes that any utility lines in the vicinity of the pile foundations will be relocated, or otherwise isolated or monitored, so that installation of the steel piles does not cause any vibrational or settlement damage to the utility lines. The condition of any adjacent structures or utilities should be inspected and documented prior to driving of the piles.

5.4 Concrete Slab-on-Grade Construction

Prior to constructing concrete slabs, the upper six inches of slab subgrade should be scarified, moisture conditioned to within 2% of optimum, and uniformly compacted to at least 95% of maximum dry density as determined by ASTM D698. Scarification and compaction will not be required if floor slabs are to be placed directly on undisturbed compacted structural fill.

All concrete floor slabs should have a minimum thickness of four inches. Slab thickness and structural reinforcing requirements within the slab should be determined by the design engineer. At least six inches of crushed base aggregate should be placed beneath slab-on-grade floors to

provide uniform support. The aggregate base should be compacted to a minimum of 95% relative compaction.

We recommend that the base course be placed within three to five days (depending on the time of year) after moisture conditioning and compaction of the subgrade soil. The subgrade should be protected against drying until the concrete slab is placed.

In floor slab areas where moisture sensitive floor coverings are planned, an impermeable membrane (e.g. 10-mil thick polyethylene) should be placed over the base course to reduce the migration of moisture vapor through the concrete slabs. The impermeable membrane should be protected by two inches of fine, moist sand placed both above and below the membrane. The sand cover will provide protection for the membrane and will promote uniform curing of the concrete slab. The sand cover should be moistened and tamped prior to slab placement.

5.5 Site Drainage

Final elevations at the site should be planned so that drainage is directed away from all foundations. Parking areas should be sloped and drainage gradients maintained to carry all surface water off the site. In parking lot areas, curbs adjacent to landscaping should be deepened to act as a cutoff, or a sub-drain system should be constructed to collect excessive water from landscaping irrigation. We understand the drainage system for the baseball field, which will be 4 to 6 feet lower than the surrounding area, will be designed by CTA Architects Engineers and HNTB Engineering, Inc.

5.7 Concrete Reactivity

Analytical testing of selected soil samples was performed to assess the potential for adverse reactivity with concrete. Soluble sulfate tests were performed to evaluate potential sulfate attack against Portland Cement Concrete. Soluble sulfate contents were observed to be 0.78%. Therefore, the potential for sulfate attack appears to be severe according to data furnished by International Building Code. Concrete used for this project should use Type V cement.

6.0 ADDITIONAL SERVICES

6.1 Project Bid Documents

It has been our experience during the bidding process, that contractors often contact us to discuss the geotechnical aspects of the project. Informal contacts between Rimrock Engineering and an individual contractor could result in incorrect or incomplete information

being provided to the contractor. Therefore, we recommend a pre-bid meeting be held to answer any questions about the report prior to submittal of bids. If this is not possible, questions or clarifications regarding this report should be directed to the project Owner or his designated representative. After consultation with Rimrock Engineering, the project Owner (or his representative) should provide clarifications or additional information to all contractors bidding the job.

6.2 Construction Observation/Testing and Plan Review

The recommendations made in this report are based on the assumption that an adequate program of tests and observations will be made during construction to verify compliance with these recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation and earthwork.
- Observation of footing trench excavations.
- Observation and testing of construction materials.
- Consultation as may be required during construction.

We also recommend that project plans and specifications be reviewed by us to verify compatibility with our conclusions and recommendations. Additional information concerning the scope and cost of these services can be obtained from our office.

The review of plans and specifications and the field observation and testing by Rimrock Engineering are an integral part of the conclusions and recommendations made in this report. If we are not retained for these services, the Client agrees to assume Rimrock Engineering's responsibility for any potential claims that may arise during construction.

7.0 LIMITATIONS

Recommendations contained in this report are based on our field explorations, laboratory tests, and our understanding of the proposed construction. The study was performed using a mutually agreed upon scope of work. It is our opinion that this study was a cost-effective method to evaluate the subject site and evaluate some of the potential geotechnical concerns. More detailed, focused, and/or thorough investigations can be conducted. Further studies will tend to increase the level of assurance, however, such efforts will result in increased costs. If the Client wishes to reduce the uncertainties beyond the level associated with this study, Rimrock Engineering should be contacted for additional consultation.

The soils data used in the preparation of this report were obtained from borings made for this investigation. It is possible that variations in soils exist between the points explored. The nature and extent of soil variations may not be evident until construction occurs. If any soil conditions are encountered at this site which are different from those described in this report, our firm should be immediately notified so that we may make any necessary revisions to our recommendations. In addition, if the scope of the proposed project, locations of structures, or building loads change from the description given in this report, our firm should be notified.

This report has been prepared for design purposes for specific application to the Cobb Field Stadium project in accordance with the generally accepted standards of practice at the time the report was written. No warranty, express or implied, is made.

Other standards or documents referenced in any given standard cited in this report, or otherwise relied upon by the authors of this report, are only mentioned in the given standard; they are not incorporated into it or "included by reference," as that latter term is used relative to contracts or other matters of law.

This report may be used only by the Client and for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on- and off-site), or other factors including advances in man's understanding of applied science may change over time and could materially affect our findings. Therefore, this report should not be relied upon after 36 months from its issue. Rimrock Engineering should be notified if the project is delayed by more than 24 months from the date of this report so that a review of site conditions can be made, and recommendations revised if appropriate.

It is the Client's responsibility to see that all parties to the project including the designer, contractor, subcontractors, etc., are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk. Any party other than the Client who wishes to use this report shall notify Rimrock Engineering of such intended use by executing the "Application for Authorization to Use" which follows this document as an appendix. Based on the intended use of the report, Rimrock Engineering may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the Client or anyone else will release Rimrock Engineering from any liability resulting from the use of this report by any unauthorized party.

APPENDIX B

SUGGESTED SPECIFICATIONS FOR EARTHWORK
COBB FIELD STADIUM
BILLINGS, MONTANA

1.0 GENERAL

1.1 **Scope** - The work done under these specifications shall include clearing, stripping, removal of unsuitable material, excavation, preparation of natural soils, placement and compaction of on-site and imported structural fill material, and placement and compaction of pavement materials.

1.2 **Contractor's Responsibility** - A geotechnical investigation was performed for the project by Rimrock Engineering dated May 15, 2007. The Contractor shall attentively examine the site in such a manner that he can confirm existing surface conditions with those presented in the geotechnical report. He shall satisfy himself that the quality and quantity of exposed materials and subsurface soil or rock deposits have been satisfactory represented by the Geotechnical Engineer's report and Civil Engineer's drawings. Any discrepancy that may be of prior knowledge to the Contractor or that is revealed through his investigations shall be made available to the Owner. It is the Contractor's responsibility to review the attached report prior to construction. The selection of equipment for use on the project and the order of work will similarly be his responsibility such that the requirements included in following sections have been met.

1.3 **Geotechnical Engineer** - The work covered by these specifications shall be observed and tested by the Geotechnical Engineer, Rimrock Engineering, who shall be hired by the Owner. The Geotechnical Engineer will be present during the site preparation and grading to observe the work and to perform the tests necessary to evaluate material quality and compaction. The Geotechnical Engineer shall submit a report to the Owner, including a tabulation of all tests performed. The costs of retesting of unsuitable work performed by the Contractor shall be deducted from the payments to the Contractor.

1.4 **Standard Specifications** - Where referred to in these specifications, "Standard Specifications" shall mean the current Montana Public Works Standard Specifications dated March 2003, Fifth Edition..

1.5 **Compaction Test Method** - Where referred to herein, relative compaction shall mean the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by ASTM D698 Compaction Test

Procedure. Optimum moisture content shall mean the moisture content at maximum dry density as determined above.

2.0 SITE PREPARATION

2.1 **Clearing** - Areas to be graded shall be cleared and grubbed of all vegetation and debris. These materials shall be removed from the site by the Contractor.

2.2 **Stripping** - Surface soils containing roots and organic matter shall be stripped from areas to be graded and stockpiled or discarded as directed by the Owner. In general, the depth of stripping of the topsoil will be approximately six inches. Deeper stripping, where required to remove weak soils or accumulations or organic matter, shall be performed when determined by the Geotechnical Engineer. Strippings shall be removed from the site or stockpiled at a location designated by the Owner.

2.3 **Removal of Existing Fill** - Existing fill soils, trash, and debris in the areas to be graded shall be removed prior to the placing of any compacted fill. Portions of any existing fills that are suitable for use in compacted fill may be stockpiled for future use. All organic material, topsoil, expansive soils, oversize material or other unsuitable material shall be removed from the site by the Contractor or disposed of at a location on site, if so designated by the Owner.

2.4 **Ground Surface** - The ground surface exposed by stripping shall be scarified to a depth of six inches, moisture conditioned to the proper moisture content for compaction, and compacted as required for compacted fill. Recompaction shall be approved by the Geotechnical Engineer prior to placing fill.

3.0 EXCAVATION

3.1 **General** - Excavations shall be performed to the lines and grades indicated on the plans. The data presented in the geotechnical investigation report is for information and only the Contractor shall make his own interpretation with regard to the methods and equipment necessary to perform the excavation and to obtain material suitable for fill.

3.2 **Materials** - Soils which are removed and are unsuitable for fill should be placed in non-structural areas of the project. When necessary, these soils may be placed in deeper fills if approved by the Geotechnical Engineer.

3.3 **Treatment of Exposed Surface** - The ground surface exposed by excavation shall be scarified to a depth of six inches, moisture conditioned to the proper moisture content for compaction, and compacted as required for compacted fill.

Recompaction shall be approved by the Geotechnical Engineer prior to placing fill.

4.0 STRUCTURAL FILL

4.1 **Materials** – Structural fill material shall consist of suitable on-site or imported fill. All materials used for structural fill shall be reasonably free of organic material, have a liquid limit less than 25, a plasticity index less than 15, 100% passing the three-inch sieve, 25 to 65% passing the No. 4 sieve, and less than 20% passing the No. 200 sieve.

4.2 **Placement** - All fill materials shall be placed in layers of eight inches or less in loose thickness and uniformly moisture conditioned. The lift should then be compacted with approved compaction equipment to achieve at least 95% relative compaction in areas under structures, utilities, roadways, parking areas, and to at least 90% in undeveloped areas. No fill material shall be placed, spread, or rolled while it is frozen or thawing, or during unfavorable weather conditions.

4.3 **Benching** - Fill placed on slopes steeper than 5 horizontal to 1 vertical shall be keyed into firm, native soils or rock by a series of benches. Benching can be conducted simultaneously with placement of fill. However, the method and extent of benching shall be checked by the Geotechnical Engineer.

4.4 **Compaction Equipment** - The Contractor shall provide and use sufficient equipment of a type and weight suitable for the conditions encountered in the field. The equipment shall be capable of obtaining the required compaction in all areas, including those that are inaccessible to ordinary rolling equipment.

4.5 **Recompaction** - When, in the judgment of the Geotechnical Engineer, sufficient compaction effort has not been used, or where the field density tests indicate that the required compaction or moisture content has not been obtained, or if "pumping" or other indications of instability are noted, the fill shall be reworked and recompacted as needed to obtain a stable fill at the required density and moisture content prior to placing additional fill materials.

4.6 **Responsibility** - The Contractor shall be responsible for the maintenance and protection of all embankments and fills made during the contract period and shall bear the expense of replacing any portion which has become displaced due to carelessness, negligent work, or failure to take proper precautions.

5.0 UTILITY TRENCH BEDDING AND BACKFILL

5.1 **Material** - Pipe bedding shall be defined as all material within six inches of the perimeter of the pipe. Backfill shall be classified as all material within the remainder of the trench. Material for use as bedding shall consist of clean, granular materials, and shall conform to requirements for bedding material listed in Section 02221 of the Standard Specifications.

5.2 **Placement and Compaction** - Pipe bedding shall be placed in thin layers not exceeding eight inches in loose thickness, and conditioned to the proper moisture content for compaction.

All other trench backfill shall be placed in thin layers not exceeding eight inches in loose thickness, conditioned to the proper moisture content, and compacted as required for adjacent fill. If not specified, backfill should be compacted to at least 97% relative compaction in areas under structures, utilities, roadways, parking areas, concrete flatwork, and to 90% relative compaction in undeveloped areas.

6.0 AGGREGATE BASE FOR CONCRETE SLABS

6.1 **Material** - Aggregate base for concrete slabs shall consist of crushed base rock conforming to requirements in Section 02235 of the Standard Specifications.

6.2 **Placement** - Aggregate base shall be compacted and kept moist until placement of concrete. Compaction shall be by suitable vibrating compactors. Aggregate base shall be placed in layers not exceeding eight inches in thickness. Each layer shall be compacted by at least four passes of the vibratory compaction equipment or until 95% relative compaction has been obtained.

7.0 SUBGRADE AND AGGREGATE BASE FOR PAVED AREAS

7.1 **Subgrade Preparation** - After completion of the utility trench backfill and prior to placement of aggregate base, the upper six inches of subgrade soil shall be uniformly compacted to at least 95% relative compaction. This may require scarifying, moisture conditioning, and compacting in both cut and fill areas.

7.2 **Aggregate Base** - Aggregate materials shall meet the requirements of the appropriate sections of the “Standard Specifications” for 1 ½ Minus Crushed Base Rock. The aggregate base materials must be approved by the Geotechnical Engineer prior to use.

After the subgrade is properly prepared, the aggregate base shall be placed in layers, moisture conditioned as necessary, and compacted by rolling to at least

95% relative compaction. The compaction thickness of aggregate base shall be as shown on the approved plans.

8.0 ASPHALT CONCRETE PAVEMENT

8.1 **Thickness** - The compacted thickness of asphalt concrete shall be shown on the approved plans.

8.2 **Materials** - Aggregate materials for asphalt concrete in heavy traffic areas shall conform to the requirements listed for Type B bituminous aggregates in Section 02503-2.2.3 of the “Standard Specifications.” Asphalt concrete mixes shall utilize asphalt cement meeting the requirements of Section 02510 of “Standard Specifications”. The Contractor shall submit a proposed asphalt concrete mix design to the Owner for review and approval prior to paving. The mix design shall be based on the Marshall Method.

8.3 **Placement and Compaction** - The asphalt concrete material and placement procedures shall conform to appropriate sections of the "Standard Specifications." The asphalt concrete material shall be compacted to a minimum of 92% of the Theoretical Maximum Rice Specific Gravity.

APPENDIX C
APPLICATION FOR AUTHORIZATION TO USE
COBB FIELD STADIUM
BILLINGS, MONTANA

Rimrock Engineering, Inc.
5440 Holiday Avenue
Billings, MT 59101

To whom it may concern:

Applicant understands and agrees that the "Geotechnical Investigation Report, Cobb Field Stadium," dated May 15, 2007, Job No. 06-194-04, for the subject site is a copyrighted document, that Rimrock Engineering, Inc. is the copyright owner and that unauthorized use or copying of said document for the subject site is strictly prohibited without the express written permission of Rimrock Engineering, Inc. Applicant understands that Rimrock Engineering, Inc. may withhold such permission at its sole discretion, or grant permission upon such terms and conditions as it deems acceptable.

Applicant agrees to accept the contractual terms and conditions between Rimrock Engineering, Inc. and CTA Architects Engineers originally negotiated for preparation of this document. Use of this document without permission releases Rimrock Engineering, Inc. from any liability that may arise from use of this report.

To be Completed by Applicant

_____
(company name)

_____
(address)

_____
(city, state, zip)

_____ _____
(telephone) *(FAX)*

By: _____

Title: _____

Date: _____

For Rimrock Engineering, Inc.'s use only

_____ approved for re-use with additional fee of $ _____
_____ disapproved, report needs to be updated

By: _____
(Rimrock Engineering, Inc. project manager)

Date: _____

APPENDIX A

Plates

APPENDIX B

Suggested Specifications
For
Earthwork Construction

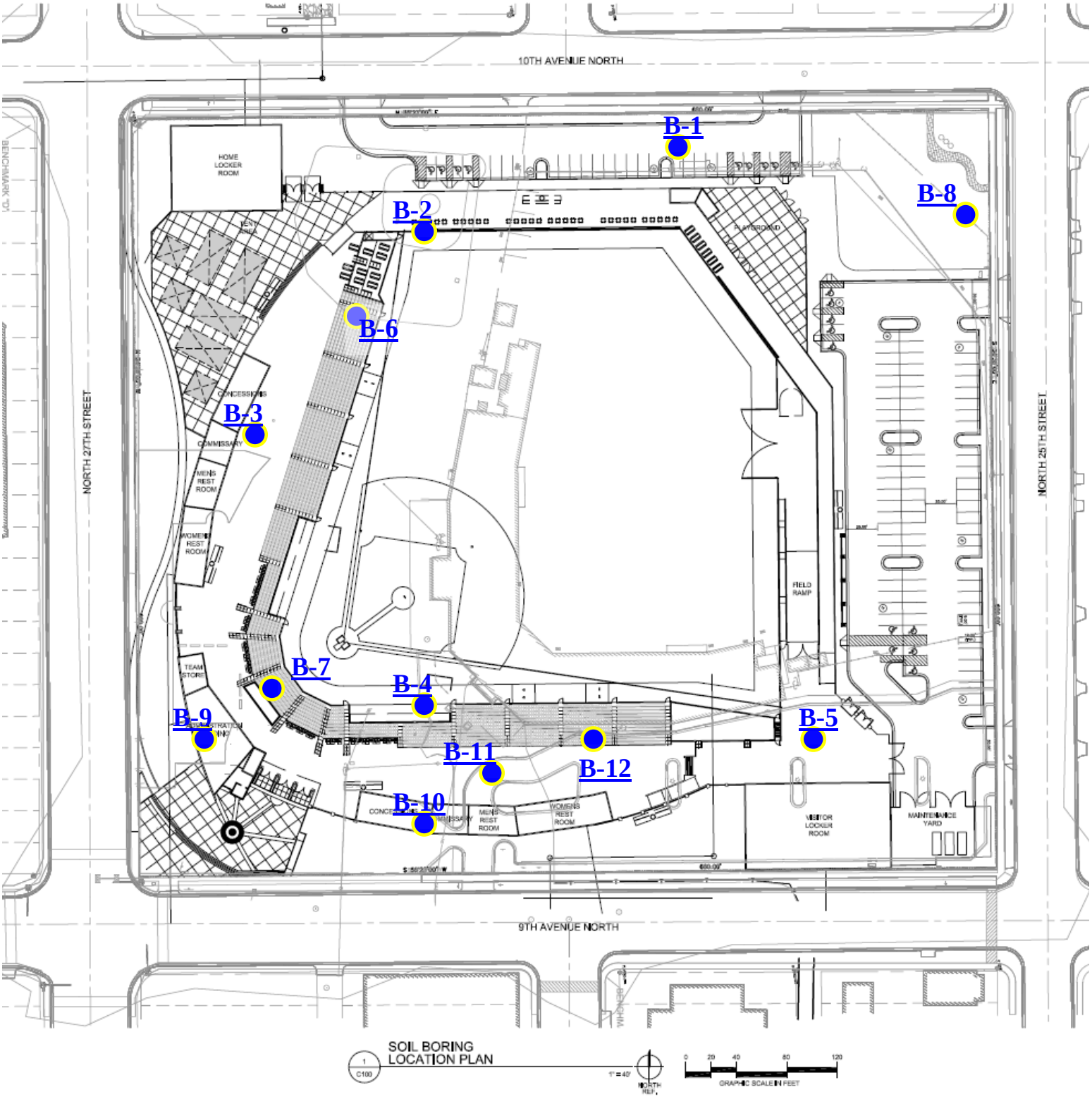
APPENDIX C

Application for Authorization to Use

Geotechnical Investigation Report
Cobb Field Stadium

Rimrock Engineering, Inc. 5440 Holiday Avenue Billings, MT 59101 Tel. (406) 294-8400 **PROJECT NO. 06-194-04**	**VICINITY MAP** **COBB FIELD STADIUM** **Billings, Montana** **CTA Architects Engineers**	**PLATE** Page 1 of 1 **1**

Geotechnical Investigation Report - Cobb Field Stadium



Rimrock Engineering, Inc. 5440 Holiday Avenue Billings, MT 59101 Tel. (406) 294-8400 **PROJECT NO. 06-194-04**	**SITE MAP** **COBB FIELD STADIUM** **Billings, Montana** **CTA Architects Engineers**	**PLATE** Page 1 of 1 **2**

Geotechnical Investigation Report
Cobb Field Stadium

West Photo Aspect

Rimrock Engineering, Inc. 5440 Holiday Avenue Billings, MT 59101 Tel. (406) 294-8400 **PROJECT NO. 06-194-04**	**SITE PHOTOS** **COBB FIELD STADIUM** **Billings, Montana** **CTA Architects Engineers**	**PLATE** Page 1 of 1 **3**

Date Completed: 10/21/2005 Logged By: W. Reynolds

Boring Location: See Site Plan - Provided by CTA Architects

Driller: J. Frank Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 16.2 Groundwater Depth: I ▽ 15.6
F ▼ 15.6

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Topsoil Sod	
								Fill Lean Clay, Dark Brown and Brown Mottled, Moist	
95	5			15	1.4			**Lean Clay** Brown, Moist, White Mottles of Soluble Sulfates, Stiff to Very Stiff, Medium Plasticity (CL)	MC = 17.7% Minus #200 = 85% Plastic Index = 20
90	10			21	1.4			**Fat Clay** Gray with White Sulfate Crystals, Moist, Soft, High Plasticity (CH)	
85	15			14	.6			**Gravel with Sand** Brown, Wet, Medium Dense (GP)	
								End of Boring	

RIMROCK SOIL/ROCK LOG 05-210-01.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-1
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
4

Date Completed: 10/21/2005 Logged By: W. Reynolds

Boring Location: See Site Plan - Provided by CTA Architects

Driller: J. Frank Drilling Method/Size: Solid Stem Auger

Elev. Top of Hole: 100 Total Depth: 40 Groundwater Depth: I ▽ 13.5

F ▼ 13.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
95	5							**Topsoil** Sod **Fill** Lean Clay, Brown to Dark Brown, Moist	
								Lean Clay Brown, Moist, Stiff, Medium Plasticity (CL)	
90	10							**Fat Clay** Brown, Moist, Soft, High Plasticity (CH)	
85	15							**Gravel with Sand** Brown, Wet, Dense, Granular Non-Plastic, (GP)	
80	20								
75	25								
70	30								
65	35							**Shale** Dark Gray, Moist, Highly Weathered, Soft Shale became more competent at 36.5 feet	
60	40							**End of Boring**	

RIMROCK SOIL/ROCK LOG 05-210-01.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04

Date: 5/15/2007 File Number:

LOG OF BORING B-2
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
5

Date Completed: 10/21/2005 Logged By: W. Reynolds

Boring Location: See Site Plan - Provided by CTA Architects

Driller: J. Frank Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 16 Groundwater Depth: I ▽ 14.5

F ▼ 14.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Topsoil Sod	
								Fill Lean Clay, Dark Brown and Brown Mottled, Moist, Medium Stiff, Medium Plasticity (CL)	
								Lean Clay Brown, Moist, Medium Stiff, Medium Plasticity, Some Sulfate Crystals (CL)	
95	5			8	1.3				
								Fat Clay Brown with Gray and White Mottled Sulfate Crystals, Moist, Medium Stiff, High Plasticity (CH)	
90	10			7	1.5				
								Gravel with Sand Gray to Brown, Moist turning Wet at 14.5 feet, Dense, Granular Non-Plastic (GP-SP)	
85	15			34	.3				
								End of Boring	

RIMROCK SOIL/ROCK LOG 05-210-01.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04

Date: 5/15/2007 File Number:

LOG OF BORING B-3

Cobb Field Stadium

Billings, Montana

CTA Architects Engineers

PLATE

1 of 1

6

Date Completed: 10/21/2005 Logged By: W. Reynolds

Boring Location: See Site Plan - Provided by CTA Architects

Driller: J. Frank Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 16 Groundwater Depth: I ▽ 12.6
F ▼ 12.6

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Topsoil Sod	
								Lean Clay Grayish Brown, Moist, Medium Stiff, Medium to High Plasticity (CL)	
95	5			5	1.3			**Fat Clay** Grayish Brown, Moist, Medium Stiff, High Plasticity (CH)	
								Lean Clay with Sand Gray with White Mottling of Sulfate Crystals, Moist, Medium Stiff, Medium Plasticity (CLS)	
90	10			17	1.2			**Gravel with Sand** Gray to Brown, Moist turning Wet at 12.6 feet, Medium Dense to Dense, Granular Non-Plastic (GP-SP)	
85	15			37	.3			**End of Boring**	

RIMROCK SOIL/ROCK LOG 05-210-01.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-4
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
7

Date Completed: 10/21/2005 Logged By: W. Reynolds

Boring Location: See Site Plan - Provided by CTA Architects

Driller: J. Frank Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 15.1 Groundwater Depth: I ▽ 13.8
F ▼ 13.8

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Topsoil Sod	
								Fill Poorly Graded Gravel with Sand, Brown, Moist, Medium Dense, (GP)	
								Lean Clay Brown, Moist, Medium Stiff, Medium Plasticity (CL)	
95	5			8	1.3				
					1.0			**Fat Clay** Gray with White Mottling, Moist, High Plasticity (CH)	MC = 24.8% Minus #200 = 97.8% Plastic Index = 40
90	10							**Gravel with Sand** Brown, Moist turning Wet at 13.8 Feet, Dense, Granular Non-Plastic (GP-SP)	
85	15			25/.1	.1				
								End of Boring	

RIMROCK SOIL/ROCK LOG 05-210-01.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-5
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
8

Date Completed: 5/2/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: Solid Stem Auger

Elev. Top of Hole: 100 Total Depth: 27 Groundwater Depth: I ▽ 15.5
F ▼ 15.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
100	0							**Fill** Sandy Lean Clay, Brownish Red, Moist, Medium Stiff, Medium/Low Plasticity	
								Lean Clay Brown, Moist, Medium Stiff, Medium/High Plasticity, (CL)	
95	5								
90	10								
85	15							**Poorly Graded Gravel with Sand** Brown, Moist to Wet, Dense, Granular Non-Plastic, (GP-SP)	
80	20								
75	25							**Shale** Gray, Weathered, Hard	
								End of Boring	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-6
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
9

Date Completed: 5/2/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: Solid Stem Auger

Elev. Top of Hole: 100 Total Depth: 25 Groundwater Depth: I ▽ 21.5
F ▼ 21.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Fill Sandy Lean Clay with Gravel, Brown, Moist, Medium Stiff, Medium/Low Plasticity	
95	5							**Lean Clay** Brown, Moist, Medium Stiff, Medium/High Plasticity, (CL)	
90	10							**Poorly Graded Gravel with Sand** Brown, Moist to Wet, Dense, Granular Non-Plastic, (GP-SP)	
85	15								
80	20							**Shale** Gray, Weathered, Hard	
75	25							**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-7
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
10

Date Completed: 5/2/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 24.5 Groundwater Depth: I ▽ 17.9
F ▼ 13.2

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Fill Sandy Lean Clay with Gravel, Brown, Moist, Soft, Medium/Low Plasticity	
				6	.6			**Fat Clay** Brown with White Mottling, Moist, Soft to Medium Stiff, High Plasticity, Lenses and Laminations of Sandy Lean Clay, (CH)	
95	5			7	1.2				MC = 30.8% Minus #200 = 98.6% Plastic Index = 35
				7	1.5				
90	10			6	1.5				
				7	1.5				
85	15								
								Poorly Graded Gravel with Sand Brown, Wet, Dense, Granular Non-Plastic, (GP-SP)	
80	20								
75	25							**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-8
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
11

Date Completed: 5/2/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 16 Groundwater Depth: I ▽ 14.5
F ▼ 14.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Fill Lean Clay with Sand, Brown, Moist, Medium Stiff to Stiff, Medium/Low Plasticity	
				8	1.2			**Sandy Lean Clay** Brown with White Mottling, Moist, Soft to Medium Stiff, Medium Plasticity, (CL)	
95	5			10	1.2				
					1.5			**Lean to Fat Clay** Brown, Moist, Medium Stiff, Medium/High Plasticity, (CL/CH)	
90	10			15	1.3			**Poorly Graded Gravel with Sand** Brown, Wet, Dense, Granular Non-Plastic, (GP-SP)	
85	15			16	0			**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-9
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 1
12

Date Completed: 5/2/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: 3.25" I.D. - Hollow Stem Auger

Elev. Top of Hole: 100 Total Depth: 15 Groundwater Depth: I ▽ 14.4

F ▼ 12.2 After 10min.

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Fill Lean Clay with Sand, Brown, Moist, Medium Stiff to Stiff, Medium/Low Plasticity	
				6	1.0			**Lean Clay** Brown with White Mottling, Moist, Stiff to Medium Stiff, Medium Plasticity, (CL)	
95	5				.2				
								Fat Clay Brown, Moist, Medium Stiff, Medium/High Plasticity, (CH)	
90	10			30	1.5			**Poorly Graded Gravel with Sand** Brown, Wet, Dense, Granular Non-Plastic, (GP-SP)	
85	15			50/.6	.1			**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04

Date: 5/15/2007 File Number:

LOG OF BORING B-10

Cobb Field Stadium

Billings, Montana

CTA Architects Engineers

PLATE

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13

Date Completed: 4/27/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: Solid Stem Auger

Elev. Top of Hole: 100 Total Depth: 24.5 Groundwater Depth: I ▽ 11.5
F ▼ 11.5

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
								Asphalt	
								Base Mostly 3/4in. Minus, Coarse Dark Brown	
								Lean to Fat Clay Grayish Brown with White Mottling, Moist, Medium Stiff, Medium/High Plasticity, (CL/CH)	
95	5								
90	10							**Poorly Graded Gravel with Sand** Brown, Wet, Dense, Granular Non-Plastic, (GP-SP)	
85	15								
80	20							**Shale** Gray, Weathered, Hard	
75	25							**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

Drafted By: R. Kukes Project No.: 6-194-04
Date: 5/15/2007 File Number:

LOG OF BORING B-11
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
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14

Date Completed: 4/27/2007 Logged By: R.R./W.R.

Boring Location: See Site Plan - Provided by CTA Architects

Driller: Rimrock Engineering Inc. Drilling Method/Size: Solid Stem Auger

Elev. Top of Hole: 100 Total Depth: 22 Groundwater Depth: I ▽ 9.6

F ▼ 9.6

ELEVATION, ft.	DEPTH, ft.	SAMPLE TYPE	SAMPLE/BOX NUMBER	BLOWS PER FOOT	RECOVERY, ft.	RQD	Graphic Log	DESCRIPTION	NOTES
95	5							**Asphalt** **Base** Mostly 3/4in. Minus, Coarse Dark Brown **Lean to Fat Clay** Grayish Brown with White Mottling, Moist, Medium Stiff, Medium/High Plasticity, (CL/CH)	
90	10							**Poorly Graded Gravel with Sand** Brown, Wet, Dense, Granular Non-Plastic, (GP-SP)	
85	15								
80	20							**End of Boring**	

RIMROCK SOIL/ROCK LOG 6-194-04.GPJ 5/15/07

Rimrock Engineering

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Date: 5/15/2007 File Number:

LOG OF BORING B-12

Cobb Field Stadium

Billings, Montana

CTA Architects Engineers

PLATE

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UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			USCS SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-GRAVEL-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML	INORGANIC SILTS & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid limit greater than 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY
LOAMS				UNDER USDA SOIL CLASSIFICATION SYSTEM, SOIL OF APPROXIMATELY EQUAL SAND/SILT/CLAY

RIMROCKUSCS 6-194-04.GPJ 5/14/07

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007
Project No.: 6-194-04
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UNIFIED SOIL CLASSIFICATION SYSTEM
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
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LOG SYMBOLS

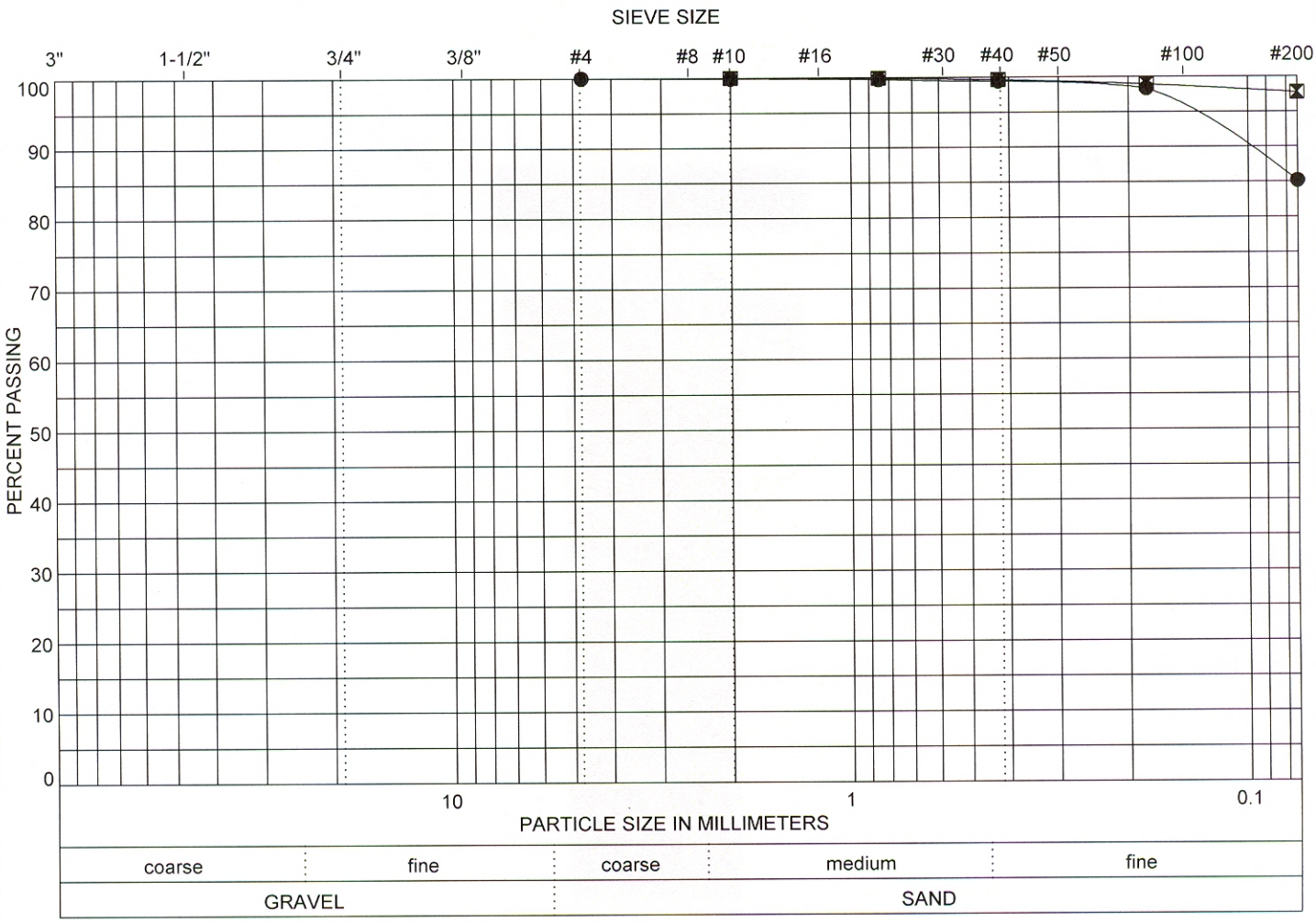
	BULK / BAG SAMPLE	-4	PERCENT FINER THAN THE NO. 4 SIEVE (ASTM Test Method C 136)
	MODIFIED CALIFORNIA SAMPLER (2-1/2 inch outside diameter)	-200	PERCENT FINER THAN THE NO. 200 SIEVE (ASTM Test Method C 117)
	CALIFORNIA SAMPLER (3 inch outside diameter)	LL	LIQUID LIMIT (ASTM Test Method D 4318)
	STANDARD PENETRATION SPLIT SPOON SAMPLER (2 inch outside diameter)	PI	PLASTICITY INDEX (ASTM Test Method D 4318)
	GEOPROBE	EI	EXPANSION INDEX (UBC STANDARD 29-2)
	ROCK CORE	COL	COLLAPSE POTENTIAL
	WATER LEVEL (level where first encountered)	UC	UNCONFINED COMPRESSION (ASTM Test Method D 2166)
	WATER LEVEL (level after completion)		
	SEEPAGE	MC	MOISTURE CONTENT (ASTM Test Method D 2216)

GENERAL NOTES

1. *Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual.*
2. *No warranty is provided as to the continuity of soil conditions between individual sample locations.*
3. *Logs represent general soil conditions observed at the point of exploration on the date indicated.*
4. *In general, Unified Soil Classification System designations presented on the logs were evaluated by visual methods only. Therefore, actual designations (based on laboratory tests) may vary.*

Rimrock Engineering	**LOG KEY** Cobb Field Stadium Billings, Montana CTA Architects Engineers	PLATE 17
Drafted By: R.Rexford Date: 5/14/2007	Project No.: 6-194-04 File Number:	

RIMROCKLOGKEY 6-194-04.GPJ 5/14/07



LEGEND:	SOURCE	DEPTH (ft)	COBBLES (%)	GRAVEL (%)	SAND (%)	FINES (%)	DESCRIPTION
●	B-1	4.5	0	0	15	85	LEAN CLAY(CL)
⊠	B-5	7.5	0	0	2	98	FAT CLAY(CH)

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007

Project No.: 6-194-04
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SIEVE ANALYSIS
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
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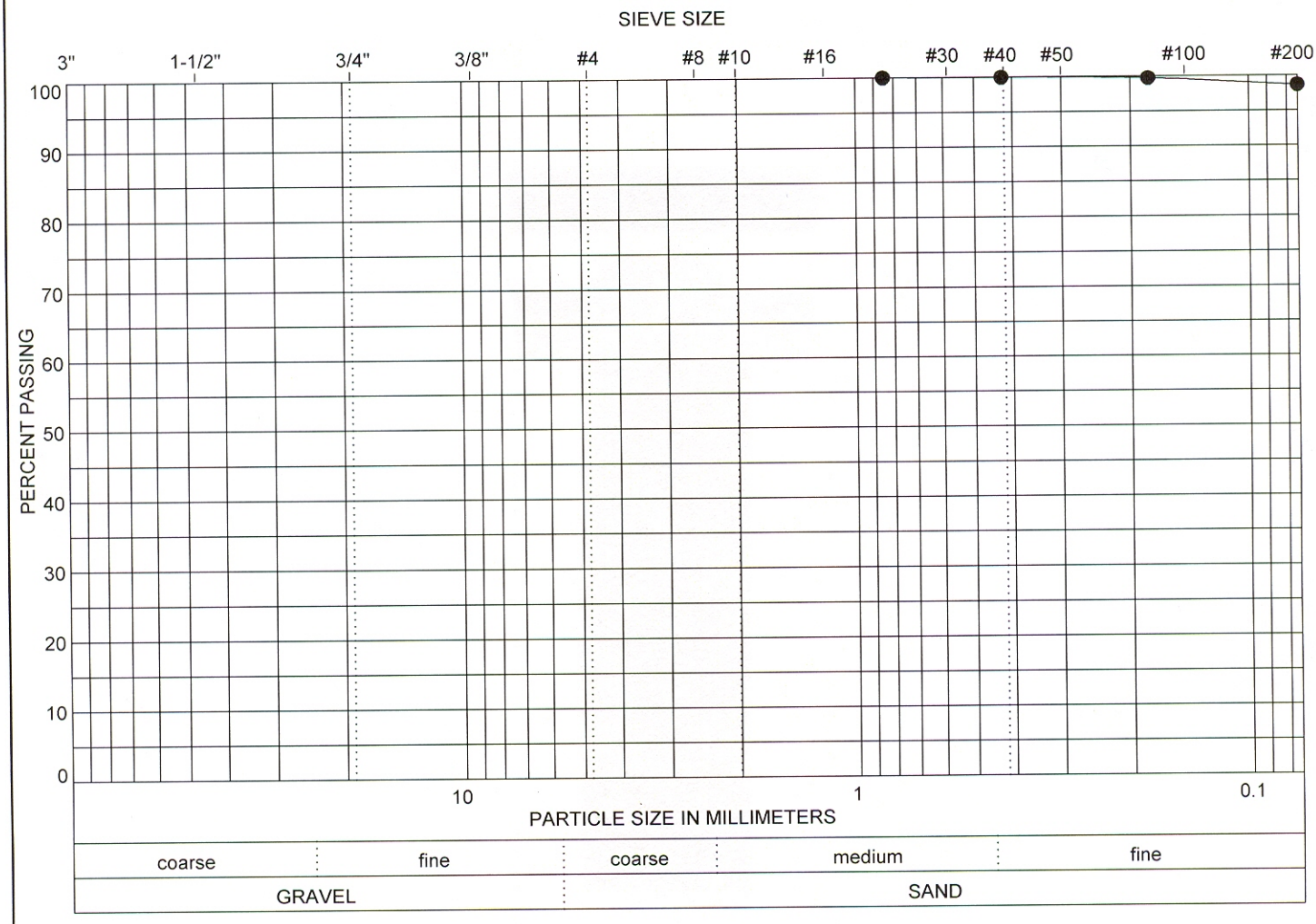
RIMROCKSIEVE 05-210-01.GPJ 5/14/07



LEGEND:	SOURCE	DEPTH (ft)	COBBLES (%)	GRAVEL (%)	SAND (%)	FINES (%)	DESCRIPTION
●	B-8	7.0	0	0	1	99	FAT CLAY(CH)

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007

Project No.: 6-194-04
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SIEVE ANALYSIS
Cobb Field Stadium
Billings, Montana

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PLATE
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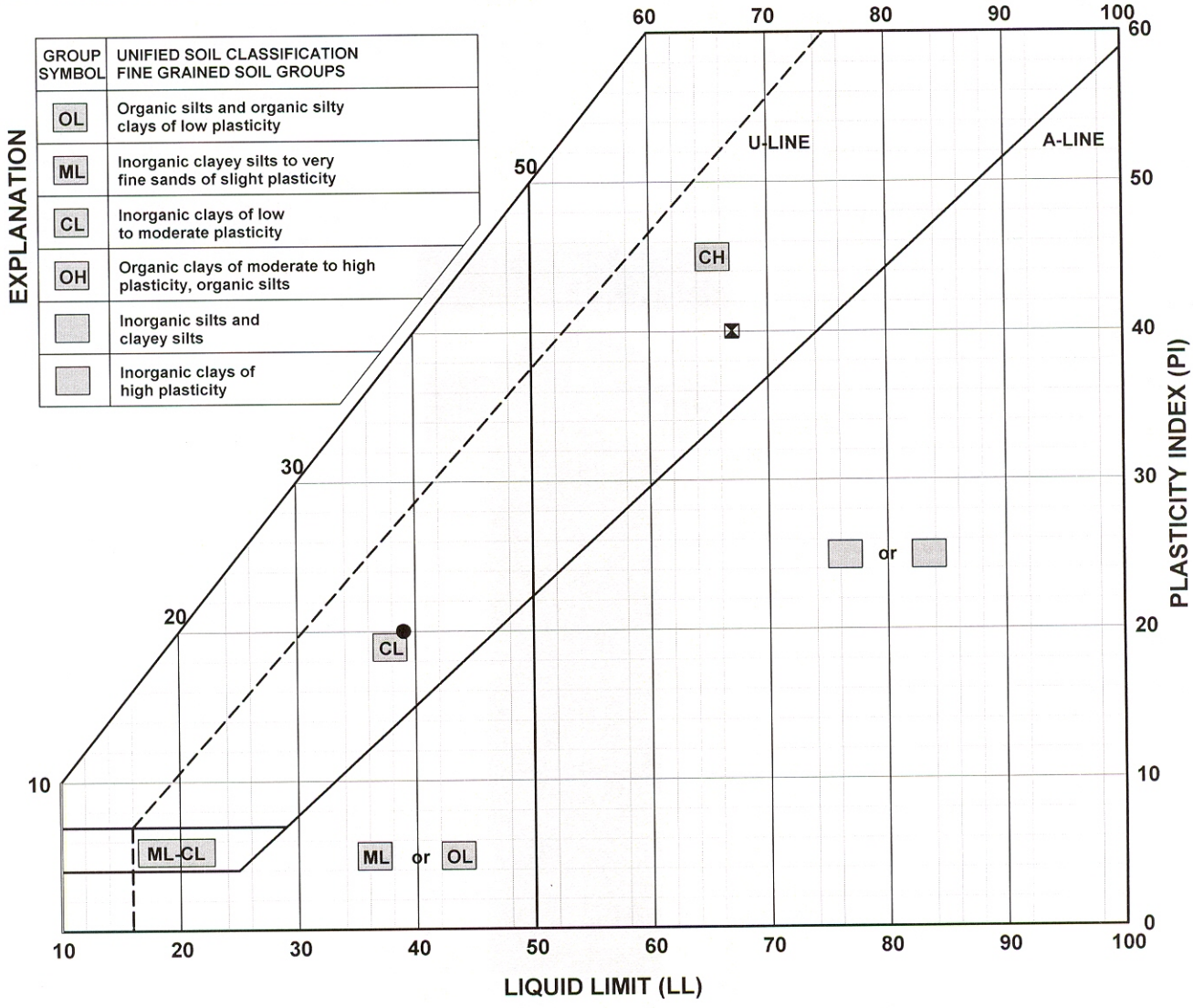
18

RIMROCKSIEVE 6-194-04.GPJ 5/14/07



LEGEND:	SOURCE	DEPTH	LL	PL	PI	DESCRIPTION
●	B-1	4.5	39	19	20	LEAN CLAY(CL)
⊠	B-5	7.5	67	27	40	FAT CLAY(CH)

RIMROCK ATTERBURG 05-210-01.GPJ 5/14/07

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007
Project No.: 6-194-04
File Number:

PLASTICITY CHART
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
1 of 2
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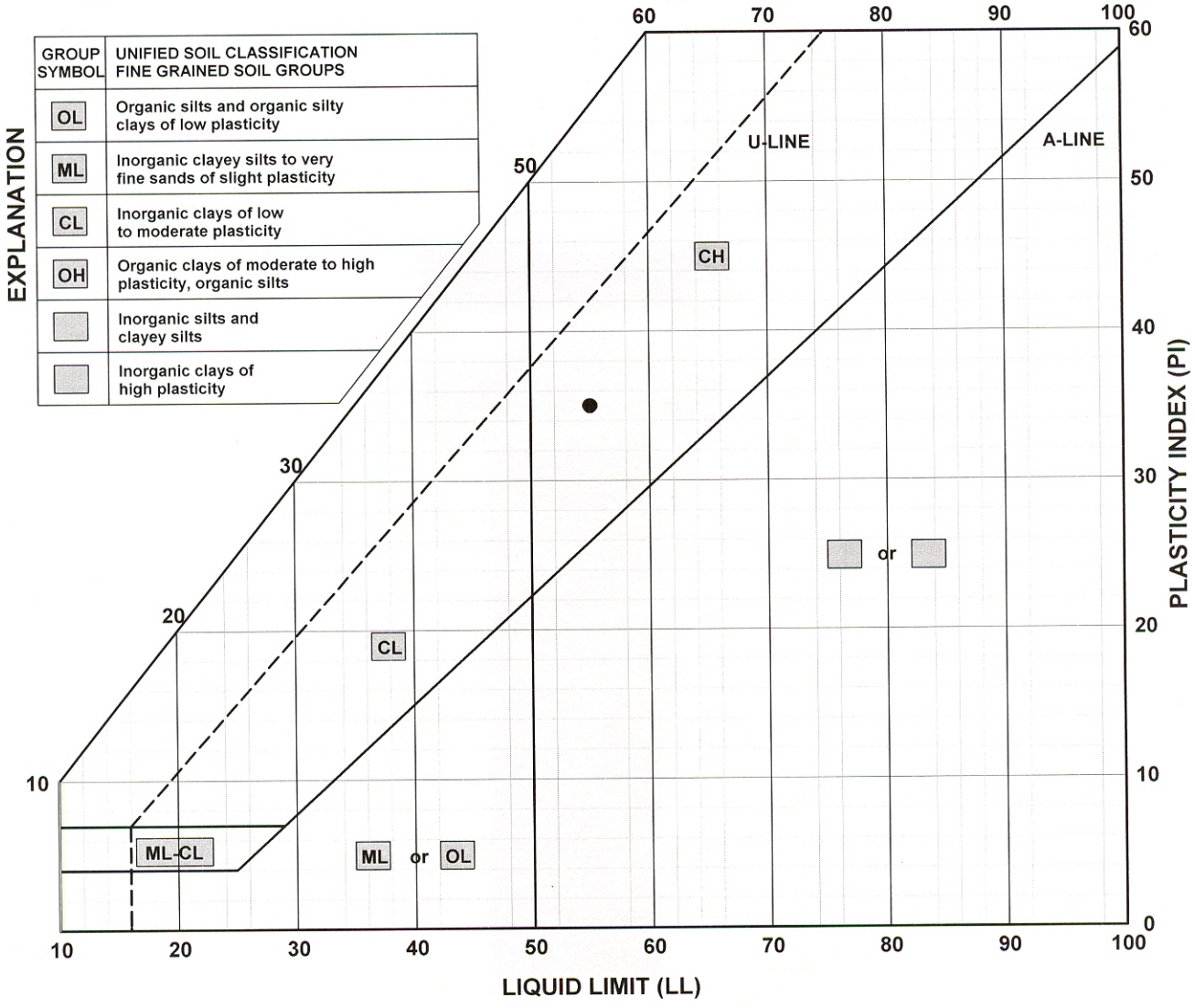

LEGEND:	SOURCE	DEPTH	LL	PL	PI	DESCRIPTION
●	B-8	7.0	55	20	35	FAT CLAY(CH)

RIMROCK ATTERBURG 6-194-04.GPJ 5/14/07

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007
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PLASTICITY CHART
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
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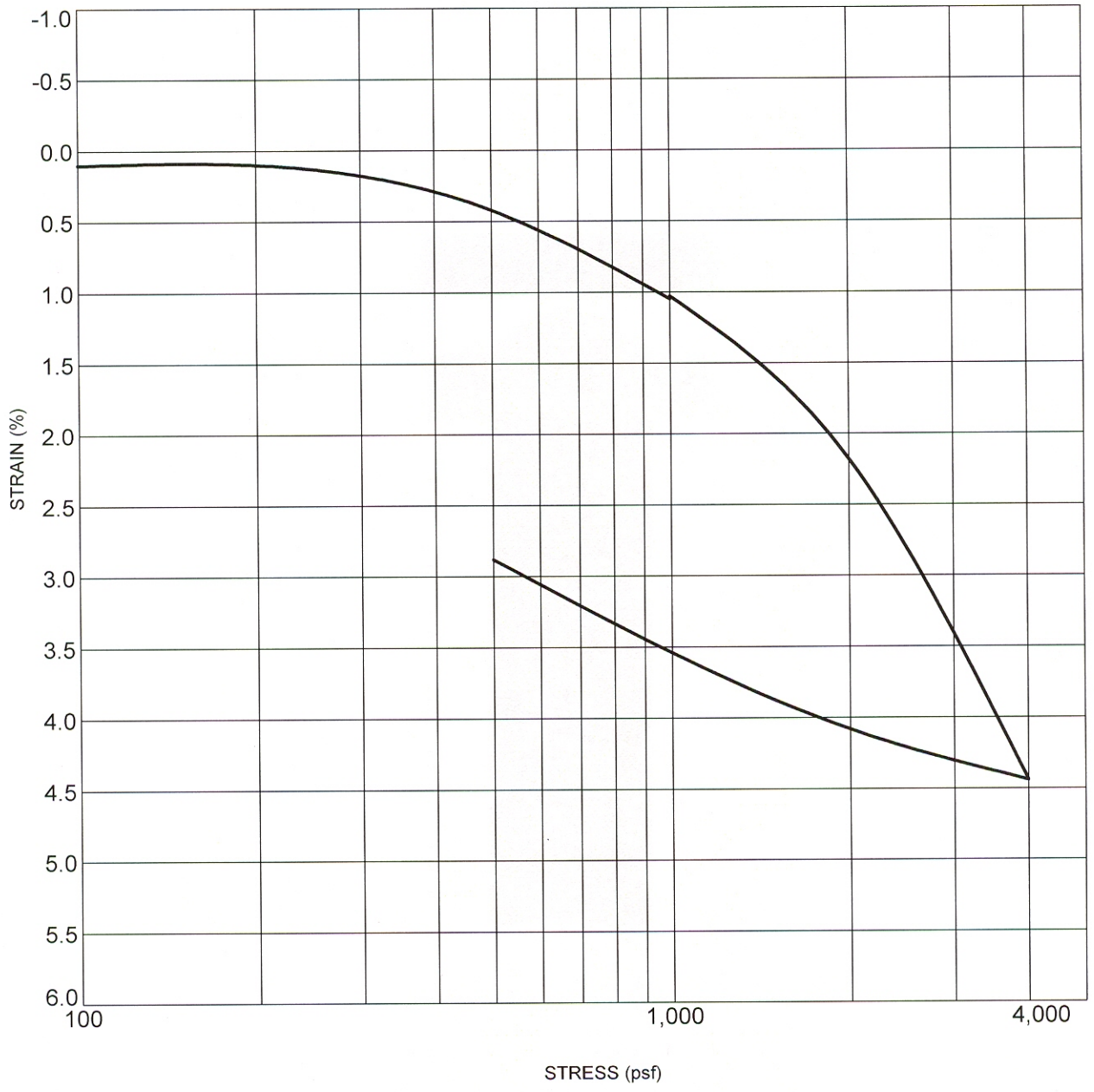

	Before	After
BORING: B-5		
At a depth of approximately 7.5 feet		
Wet Unit Weight (pcf) =	122.6	124.2
Moisture Content (%) =	24.8	23.8
Dry Unit Weight (pcf) =	98.2	100.3

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007
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CONSOLIDATION TEST
Cobb Field Stadium
Billings, Montana

CTA Architects Engineers

PLATE
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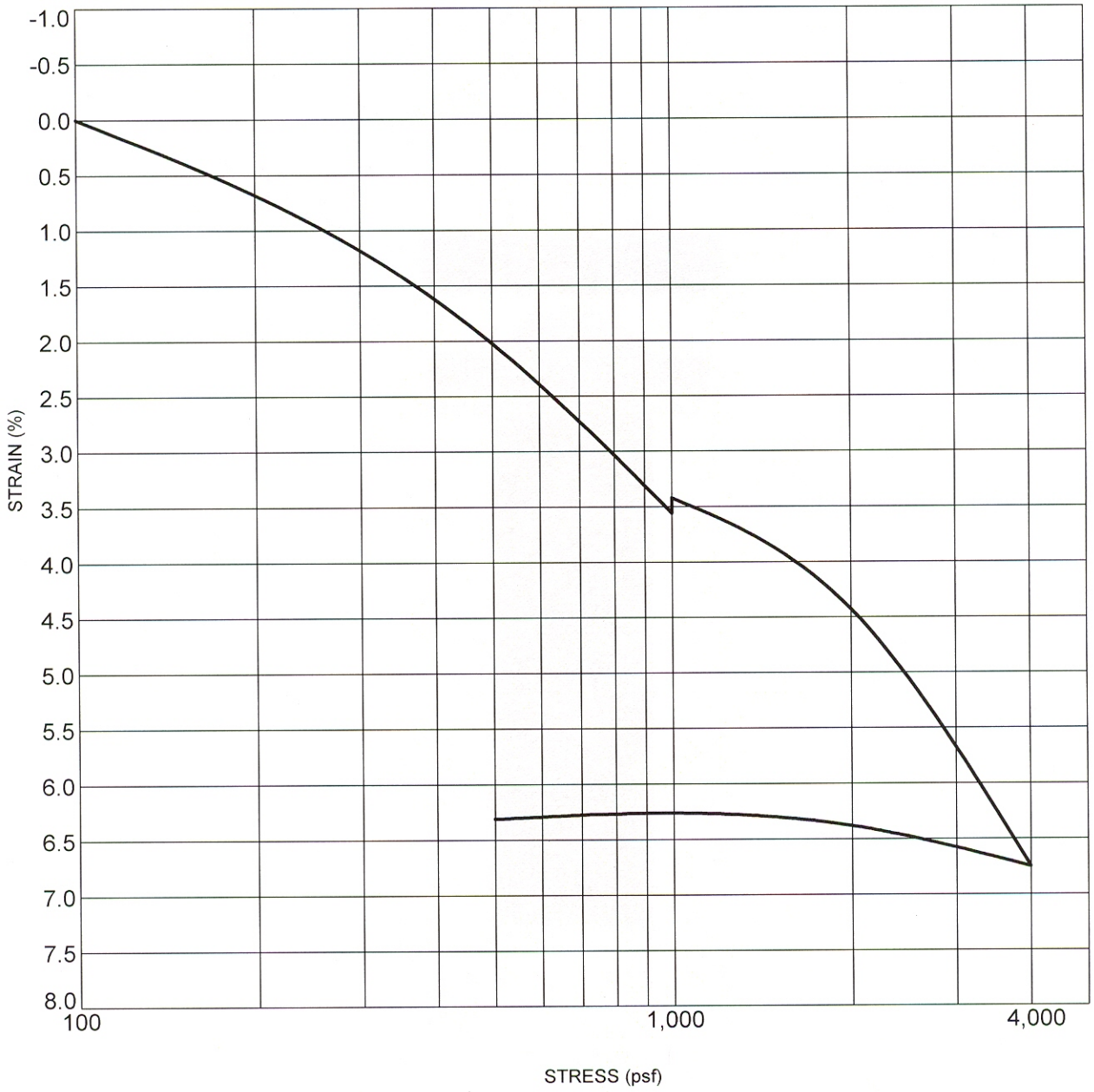
RIMROCK CONSOLIDATION 05-210-01.GPJ 5/14/07



		Before	*After*
BORING: B-8	Wet Unit Weight (pcf) =	117.9	123.5
At a depth of approximately 7.0 feet	Moisture Content (%) =	30.8	32.0
	Dry Unit Weight (pcf) =	90.1	93.5

RIMROCK CONSOLIDATION 6-194-04.GPJ 5/14/07

Rimrock Engineering

Drafted By: R.Rexford
Date: 5/14/2007
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CONSOLIDATION TEST
Cobb Field Stadium
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PLATE
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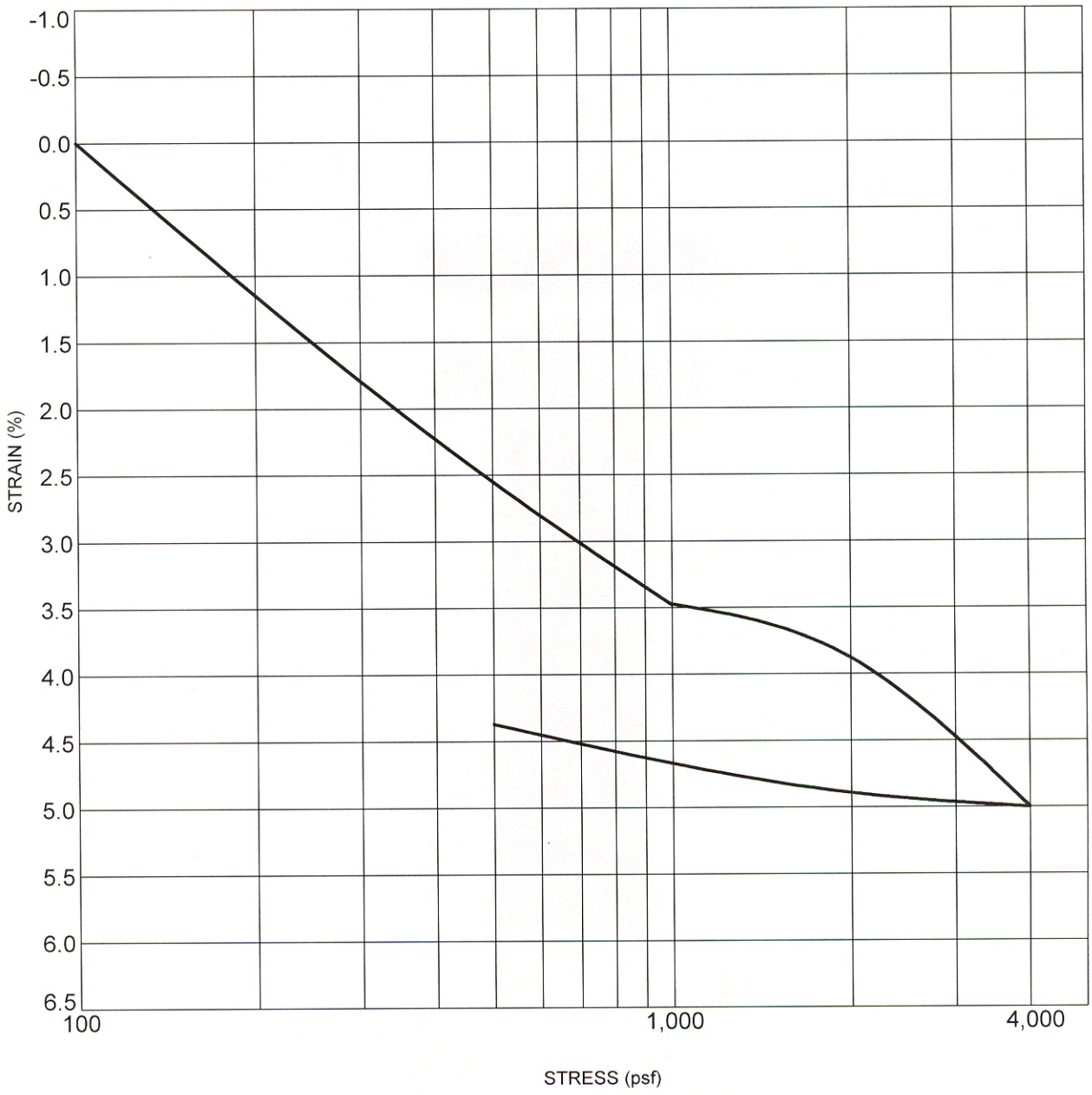

		Before	*After*
BORING: B-9	Wet Unit Weight (pcf) =	130.4	129.9
At a depth of approximately 5.5 feet	Moisture Content (%) =	16.2	18.9
	Dry Unit Weight (pcf) =	112.2	109.2

Rimrock Engineering

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Date: 5/14/2007
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CONSOLIDATION TEST
Cobb Field Stadium
Billings, Montana

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PLATE
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RIMROCK CONSOLIDATION 6-194-04.GPJ 5/14/07