

North Platte – Airborne Cloud Seeding Project CTGG1 2019-2259 CMS#113563

October 10, 2019

Jackson County Water Conservancy District Attn: Mr. Kent Crowder, Board President P.O. Box 1019 Walden, CO 80480

Dear Grantee:

We are pleased to inform you that the Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB) has approved your application for funding pursuant to the WSRF Grant Program ("Program") in the amount of \$150,000.00. This letter authorizes you to proceed with the Airborne Cloud Seeding Project ("Project") in accordance with the terms of this Grant Award Letter.

Attached to this letter are the terms and conditions of your Grant. Please review these terms and conditions, as they are requirements of this Grant to which you, Jackson County Water Conservancy District, agree by accepting the Grant Funds.

The WSRF Criteria & Guidelines can be located on our website for additional information.

If you have any questions or concerns regarding the project, please contact Craig Godbout, Project Manager at 303-866-3441 or at Craig.Godbout@state.co.us. Please send the 6-month progress reports and invoices directly to the Project Manager and cc me at Dori.vigil@state.co.us.

Thank you.

Sincerely,

//s//

Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.com

Attachments

GRANT AWARD LETTER SUMMARY OF GRANT AWARD TERMS AND CONDITIONS

State Agency	Grant Amount
Department of Natural Resources	Total for Grant Term: \$150,000.00
Colorado Water Conservation Board (CWCB)	
1313 Sherman St, Room 718	
Denver, CO 80203	
Grantee	Agreement Number
Jackson County Water Conservancy District	CMS# 113563
PO Box 1019	CTGG1 2019-2259
Walden, CO 80480	
Grant Issuance Date	
The later of 9/21/2018 or the date the State Controller or an	
authorized delegate signs this Grant Agreement.	
Grant Expiration Date	
June 30, 2022	
Grant Project Name	Local Match
Stream Management Plan	Total Match for Grant Term: \$119,500.00
Grant Purpose	
The purpose of this project is to provide operational monies for	
a cooperative airborne cloud seeding project that is an	
extension into the North Platte Basin.	

THE SIGNATORIES LISTED BE	LOW AUTHORIZE THIS GRANT
	In accordance with §24-30-202 C.R.S., this Grant is not valid
STATE OF COLORADO	until signed and dated below by the State Controller or an
John W. Hickenlooper, Governor	authorized delegate.
Department of Natural Resources	
Robert D. Randall, Executive Director	STATE CONTROLLER
	Robert Jaros, CPA, MBA, JD
meign	
By: Greg Johnson, Section Chief	By: July /c
Colorado Water Conservation Board	By: Magge Van Cleef, DNR Purchasing Director
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Date: 9 2 18	Mate: 0/10/01
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1. GRANT

As of the Grant Issuance Date, the State Agency shown on the first page of this Grant Award Letter (the "State") hereby obligates and awards to Grantee shown on the first page of this Grant Award Letter (the "Grantee") an award of Grant Funds in the amounts shown on the first page of this Grant Award Letter. By accepting the Grant Funds provided under this Grant Award Letter, Grantee agrees to comply with the terms and conditions of this Grant Award Letter and requirements and provisions of all Exhibits to this Grant Award Letter.

2. TERM

A. Initial Grant Term and Extension

The Parties' respective performances under this Grant Award Letter shall commence on the Grant Issuance Date and shall terminate on the Grant Expiration Date unless sooner terminated or further extended in accordance with the terms of this Grant Award Letter. Upon request of Grantee, the State may, in its sole discretion, shall have the option to extend the performance under this Grant Award Letter beyond the Initial Term for a period, or for successive periods, of one (1) year or less under the same terms specified in the Grant Award Letter (each such period an "Extension Term"). In order to exercise this option, the State shall provide written notice to Grantee in a form substantially equivalent to **Exhibit C**.

B. Early Termination in the Public Interest

The State is entering into this Grant Award Letter to serve the public interest of the State of Colorado as determined by its Governor, General Assembly, or Courts. If this Grant Award Letter ceases to further the public interest of the State or if State, or other funds used for this Grant Award Letter are not appropriated, or otherwise become unavailable to fund this Grant Award Letter, the State, in its discretion, may terminate this Grant Award Letter in whole or in part by providing written notice to Grantee. If the State terminates this Grant Award Letter in the public interest, the State shall pay Grantee an amount equal to the percentage of the total reimbursement payable under this Grant Award Letter that corresponds to the percentage of Work satisfactorily completed, as determined by the State, less payments previously made. Additionally, the State, in its discretion, may reimburse Grantee for a portion of actual, out-of-pocket expenses not otherwise reimbursed under this Grant Award Letter that are incurred by Grantee and are directly attributable to the uncompleted portion of Grantee's obligations, provided that the sum of any and all reimbursements shall not exceed the maximum amount payable to Grantee hereunder. This subsection shall not apply to a termination of this Grant Award Letter by the State for breach by Grantee.

3. AUTHORITY

Authority to enter into this Grant Award Letter exists in the law as follows:

Colorado Revised Statutes (CRS) §39-29-109(2)(c), §37-75-104(2)(c) and §37-75-102 et al., and Senate Bill 06-179 adopted by the 2006 General Assembly, and a sufficient unencumbered balance thereof remains available for payment. Required approvals, clearance and coordination have been accomplished from and with appropriate agencies.

4. **DEFINITIONS**

The following terms shall be construed and interpreted as follows:

- A. "Budget" means the budget for the Work described in Exhibit B.
- B. "Business Day" means any day in which the State is open and conducting business, but shall not include Saturday, Sunday or any day on which the State observes one of the holidays listed in §24-11-101(1) C.R.S.
- C. "CORA" means the Colorado Open Records Act, §§24-72-200.1 et. seq., C.R.S.
- D. "Grant Award Letter" means this letter which offers Grant Funds to Grantee, including all attached Exhibits, all documents incorporated by reference, all referenced statutes, rules and cited authorities, and any future updates thereto.
- E. "**Grant Funds**" means the funds that have been appropriated, designated, encumbered, or otherwise made available for payment by the State under this Grant Award Letter.
- F. "Grant Expiration Date" means the Grant Expiration Date shown on the first page of this Grant Award Letter.
- G. "Grant Issuance Date" means the Grant Issuance Date shown on the first page of this Grant Award Letter.
- H. "Exhibits" means the following exhibits attached to this Grant Award Letter:
 - i. **Exhibit A**, Statement of Work
 - ii. Exhibit B, Budget and Schedule
 - iii. Exhibit C, Sample Option Letter
- I. "Extension Term" means the period of time by which the Grant Expiration Date is extended by the State through delivery of an Option Letter (see Exhibit C).
- J. "Goods" means any movable material acquired, produced, or delivered by Grantee as set forth in this Grant Award Letter and shall include any movable material acquired, produced, or delivered by Grantee in connection with the Services.
- K. "Initial Term" means the time period between the Grant Issuance Date and the Grant Expiration Date.
- L. "**Matching Funds**" means the funds provided by Grantee as a match required to receive the Grant Funds.
- M. "Party" means the State or Grantee, and "Parties" means both the State and Grantee.
- N. "Services" means the services to be performed by Grantee as set forth in this Grant Award Letter, and shall include any services to be rendered by Grantee in connection with the Goods.
- O. "State Fiscal Rules" means the fiscal rules promulgated by the Colorado State Controller pursuant to §24-30-202(13)(a) C.R.S.
- P. "State Fiscal Year" means a 12 month period beginning on July 1 of each calendar year and ending on June 30 of the following calendar year. If a single calendar year follows the term, then it means the State Fiscal Year ending in that calendar year.
- Q. "State Records" means any and all State data, information, and records, regardless of physical form, including, but not limited to, information subject to disclosure under CORA.

- R. "**Subcontractor**" means third-parties, if any, engaged by Grantee to aid in performance of the Work. "Subcontractor" also includes sub-grantees.
- S. "Work" means the delivery of the Goods and performance of the Services described in this Grant Award Letter.
- T. "Work Product" means the tangible and intangible results of the Work, whether finished or unfinished, including drafts. Work Product includes, but is not limited to, documents, text, software (including source code), research, reports, proposals, specifications, plans, notes, studies, data, images, photographs, negatives, pictures, drawings, designs, models, surveys, maps, materials, ideas, concepts, know-how, and any other results of the Work. "Work Product" does not include any material that was developed prior to the Grant Issuance Date that is used, without modification, in the performance of the Work.

Any other term used in this Grant Award Letter that is defined in an Exhibit shall be construed and interpreted as defined in that Exhibit.

5. PURPOSE

The Jackson County Water Conservancy District grant funding aerial seeding will occur upwind of the target watershed along a path perpendicular to the wind direction, at distances related to the storm wind velocities and ice crystal growth times. Cloud seeding would be temporarily suspended or curtailed when snowpack snow water equivalent thresholds are exceeded, during emergencies in the target area and when high avalanche hazard levels warrant suspension.operational monies for a cooperative airborne cloud seeding project that is an extension into the North Platte Basin River Basin.

6. STATEMENT OF WORK

Grantee shall complete the Work as described in this Grant Award Letter and in accordance with the provisions of Exhibit A. The State shall have no liability to compensate or reimburse Grantee for the delivery of any goods or the performance of any services that are not specifically set forth in this Grant Award Letter.

7. PAYMENTS TO GRANTEE

A. Maximum Amount

Payments to Grantee are limited to the unpaid, obligated balance of the Grant Funds. The State shall not pay Grantee any amount under this Grant that exceeds the Grant Amount. Financial obligations of the State payable after the current State Fiscal Year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. The State shall not be liable to pay or reimburse Grantee for any Work performed or expense incurred before the Grant Issuance Date or after the Grant Expiration Date.

B. Erroneous Payments

The State may recover, at the State's discretion, payments made to Grantee in error for any reason, including, but not limited to, overpayments or improper payments, and unexpended or excess funds received by Grantee. The State may recover such payments by deduction from subsequent payments under this Grant Award Letter, deduction from any payment due

under any other contracts, grants or agreements between the State and Grantee, or by any other appropriate method for collecting debts owed to the State.

C. Matching Funds.

Grantee shall provide the Local Match Amount shown on the first page of this Grant Award Letter and described in Exhibit A (the "Local Match Amount"). Grantee shall appropriate and allocate all Local Match Amounts to the purpose of this Grant Award Letter each fiscal year prior to accepting any Grant Funds for that fiscal year. Grantee does not by accepting this Grant Award Letter irrevocably pledge present cash reserves for payments in future fiscal years, and this Grant Award Letter is not intended to create a multiple-fiscal year debt of Grantee. Grantee shall not pay or be liable for any claimed interest, late charges, fees, taxes or penalties of any nature, except as required by Grantee's laws or policies.

D. Close-Out.

Grantee shall close out this Grant within 45 days after the Grant Expiration Date. To complete close out, Grantee shall submit to the State all deliverables (including documentation) as defined in this Grant Award Letter and Grantee's final reimbursement request or invoice.

8. REPORTING - NOTIFICATION

A. Performance and Final Status

Grantee shall submit all financial, performance and other reports to the State no later than the end of the close out described in §7D, containing an evaluation and review of Grantee's performance and the final status of Grantee's obligations hereunder.

B. Violations Reporting

Grantee shall disclose, in a timely manner, in writing to the State all violations of federal or State criminal law involving fraud, bribery, or gratuity violations potentially affecting the Award.

9. GRANTEE RECORDS

A. Maintenance and Inspection

Grantee shall make, keep, and maintain, all records, documents, communications, notes and other written materials, electronic media files, and communications, pertaining in any manner to this Grant for a period of three years following the completion of the close out of this Grant. Grantee shall permit the State to audit, inspect, examine, excerpt, copy and transcribe all such records during normal business hours at Grantee's office or place of business, unless the State determines that an audit or inspection is required without notice at a different time to protect the interests of the State.

B. Monitoring

The State will monitor Grantee's performance of its obligations under this Grant Award Letter using procedures as determined by the State. The State shall monitor Grantee's performance in a manner that does not unduly interfere with Grantee's performance of the Work.

C. Final Audit Report

Grantee shall promptly submit to the State a copy of any final audit report of an audit performed on Grantee's records that relates to or affects this Grant or the Work, whether the audit is conducted by Grantee or a third party.

10. CONFIDENTIAL INFORMATION-STATE RECORDS

A. Confidentiality

Grantee shall hold and maintain, and cause all Subcontractors to hold and maintain, any and all State Records that the State provides or makes available to Grantee for the sole and exclusive benefit of the State, unless those State Records are otherwise publically available at the time of disclosure or are subject to disclosure by Grantee under CORA. Grantee shall not, without prior written approval of the State, use for Grantee's own benefit, publish, copy, or otherwise disclose to any third party, or permit the use by any third party for its benefit or to the detriment of the State, any State Records, except as otherwise stated in this Grant Award Letter. Grantee shall provide for the security of all State Confidential Information in accordance with all policies promulgated by the Colorado Office of Information Security and all applicable laws, rules, policies, publications, and guidelines including, without limitation: (i) the most recently promulgated IRS Publication 1075 for all Tax Information, (ii) the most recently updated PCI Data Security Standard from the PCI Security Standards Council for all PCI, (iii) the most recently issued version of the U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Security Policy for all CJI, and (iv) the federal Health Insurance Portability and Accountability Act for all PHI and the HIPAA Business Associate Addendum attached to this Contract. Grantee shall immediately forward any request or demand for State Records to the State's principal representative.

B. Other Entity Access and Nondisclosure Agreements

Grantee may provide State Records to its agents, employees, assigns and Subcontractors as necessary to perform the Work, but shall restrict access to State Confidential Information to those agents, employees, assigns and Subcontractors who require access to perform their obligations under this Grant Award Letter. Grantee shall ensure all such agents, employees, assigns, and Subcontractors sign nondisclosure agreements with provisions at least as protective as those in this Grant, and that the nondisclosure agreements are in force at all times the agent, employee, assign or Subcontractor has access to any State Confidential Information. Grantee shall provide copies of those signed nondisclosure restrictions to the State upon request.

C. Use, Security, and Retention

Grantee shall use, hold and maintain State Confidential Information in compliance with any and all applicable laws and regulations in facilities located within the United States, and shall maintain a secure environment that ensures confidentiality of all State Confidential Information wherever located. Grantee shall provide the State with access, subject to Grantee's reasonable security requirements, for purposes of inspecting and monitoring access and use of State Confidential Information and evaluating security control effectiveness. Upon the expiration or termination of this Grant, Grantee shall return State Records provided to Grantee or destroy such State Records and certify to the State that it has done so, as directed by the State. If Grantee is prevented by law or regulation from returning or destroying State

Confidential Information, Grantee warrants it will guarantee the confidentiality of, and cease to use, such State Confidential Information.

D. Incident Notice and Remediation

If Grantee becomes aware of any Incident, it shall notify the State immediately and cooperate with the State regarding recovery, remediation, and the necessity to involve law enforcement, as determined by the State. After an Incident, Grantee shall take steps to reduce the risk of incurring a similar type of Incident in the future as directed by the State, which may include, but is not limited to, developing and implementing a remediation plan that is approved by the State at no additional cost to the State.

11. CONFLICTS OF INTEREST

Grantee shall not engage in any business or activities, or maintain any relationships that conflict in any way with the full performance of the obligations of Grantee under this Grant. Grantee acknowledges that, with respect to this Grant, even the appearance of a conflict of interest shall be harmful to the State's interests and absent the State's prior written approval, Grantee shall refrain from any practices, activities or relationships that reasonably appear to be in conflict with the full performance of Grantee's obligations under this Grant. If a conflict or the appearance of a conflict arises, or if Grantee is uncertain whether a conflict or the appearance of a conflict has arisen, Grantee shall submit to the State a disclosure statement setting forth the relevant details for the State's consideration.

12. INSURANCE

Grantee shall maintain at all times during the term of this Grant such liability insurance, by commercial policy or self-insurance, as is necessary to meet its liabilities under the Colorado Governmental Immunity Act, §24-10-101, et seq., C.R.S. (the "GIA"). Grantee shall ensure that any Subcontractors maintain all insurance customary for the completion of the Work done by that Subcontractor and as required by the State or the GIA.

13. REMEDIES

In addition to any remedies available under any exhibit to this Grant Award Letter, if Grantee fails to comply with any term or condition of this Grant, the State may terminate some or all of this Grant and require Grantee to repay any or all Grant funds to the State in the State's sole discretion. The State may also terminate this Grant Award Letter at any time if the State has determined, in its sole discretion, that Grantee has ceased performing the Work without intent to resume performance, prior to the completion of the Work.

14. DISPUTE RESOLUTION

Except as herein specifically provided otherwise, disputes concerning the performance of this Grant that cannot be resolved by the designated Party representatives shall be referred in writing to a senior departmental management staff member designated by the State and a senior manager or official designated by Grantee for resolution.

15. NOTICES AND REPRESENTATIVES

Each Party shall identify an individual to be the principal representative of the designating Party and shall provide this information to the other Party. All notices required or permitted to be given under this Grant Award Letter shall be in writing, and shall be delivered either in hard copy or by email to the representative of the other Party. Either Party may change its principal representative or principal representative contact information by notice submitted in accordance with this §15.

For the State:

Joe Busto, Project Manager Colorado Water Conservation Board 1313 Sherman Street, Suite 718 Denver, CO 80203 Joe.Busto@state.co.us 303-866-3441

For Grantee:

Kent Crowder, Jackson County Water Conservancy District PO Box 1019 Kentcrowder47@gmail.com 970-723-4660

16. RIGHTS IN WORK PRODUCT AND OTHER INFORMATION

Grantee hereby grants to the State a perpetual, irrevocable, non-exclusive, royalty free license, with the right to sublicense, to make, use, reproduce, distribute, perform, display, create derivatives of and otherwise exploit all intellectual property created by Grantee or any Subcontractors or Subgrantees and paid for with Grant Funds provided by the State pursuant to this Grant.

17. GOVERNMENTAL IMMUNITY

Liability for claims for injuries to persons or property arising from the negligence of the Parties, their departments, boards, commissions committees, bureaus, offices, employees and officials shall be controlled and limited by the provisions of the GIA; the Federal Tort Claims Act, 28 U.S.C. Pt. VI, Ch. 171 and 28 U.S.C. 1346(b), and the State's risk management statutes, §§24-30-1501, *et seq.* C.R.S. No term or condition of this Grant Award Letter shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, or protections of any of these provisions.

18. GENERAL PROVISIONS

A. Assignment

Grantee's rights and obligations under this Grant are personal and may not be transferred or assigned without the prior, written consent of the State. Any attempt at assignment or transfer without such consent shall be void. Any assignment or transfer of Grantee's rights and obligations approved by the State shall be subject to the provisions of this Grant Award Letter.

B. Captions and References

The captions and headings in this Grant Award Letter are for convenience of reference only, and shall not be used to interpret, define, or limit its provisions. All references in this Grant Award Letter to sections (whether spelled out or using the § symbol), subsections, exhibits or other attachments, are references to sections, subsections, exhibits or other attachments contained herein or incorporated as a part hereof, unless otherwise noted.

C. Entire Understanding

This Grant Award Letter represents the complete integration of all understandings between the Parties related to the Work, and all prior representations and understandings related to the Work, oral or written, are merged into this Grant Award Letter.

D. Modification

The State may modify the terms and conditions of this Grant by issuance of an updated Grant Award Letter, which shall be effective if Grantee accepts Grant Funds following receipt of the updated letter. The Parties may also agree to modification of the terms and conditions of the Grant in a formal amendment to this Grant, properly executed and approved in accordance with applicable Colorado State law and State Fiscal Rules.

E. Statutes, Regulations, Fiscal Rules, and Other Authority.

Any reference in this Grant Award Letter to a statute, regulation, State Fiscal Rule, fiscal policy or other authority shall be interpreted to refer to such authority then current, as may have been changed or amended since the Grant Issuance Date. Grantee shall strictly comply with all applicable Federal and State laws, rules, and regulations in effect or hereafter established, including, without limitation, laws applicable to discrimination and unfair employment practices.

F. Order of Precedence

In the event of a conflict or inconsistency between this Grant Award Letter and any Exhibits or attachment, such conflict or inconsistency shall be resolved by reference to the documents in the following order of priority:

- i. The provisions of the Grant Award Letter.
- ii. Exhibit A, Statement of Work
- iii. Exhibit B, Budget,
- iv. Exhibit C, Option Letter

Option Letters or amendments shall have priority in the area that they modify.

G. Severability

The invalidity or unenforceability of any provision of this Grant Award Letter shall not affect the validity or enforceability of any other provision of this Grant Award Letter, which shall remain in full force and effect, provided that the Parties can continue to perform their obligations under the Grant in accordance with the intent of the Grant.

H. Survival of Certain Grant Award Letter Terms

Any provision of this Grant Award Letter that imposes an obligation on a Party after termination or expiration of the Grant shall survive the termination or expiration of the Grant and shall be enforceable by the other Party.

I. Third Party Beneficiaries

Except for the Parties' respective successors and assigns described above, this Grant Award Letter does not and is not intended to confer any rights or remedies upon any person or entity

other than the Parties. Any services or benefits which third parties receive as a result of this Grant are incidental to the Grant, and do not create any rights for such third parties.

J. Waiver

A Party's failure or delay in exercising any right, power, or privilege under this Grant Award Letter, whether explicit or by lack of enforcement, shall not operate as a waiver, nor shall any single or partial exercise of any right, power, or privilege preclude any other or further exercise of such right, power, or privilege.

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EXHIBIT C, OPTION LETTER (SAMPLE)

State Agency Department of Natural Resources Colorado Water Conservation Board (CWCB) 1313 Sherman St, Room 718 Denver, CO 80203	Option Letter Number
Grantee Jackson County Water Conservancy District PO Box 1019 Walden, CO 80480	Original Agreement Number CMS# 113563 CTGG1 2019-2259
Current Agreement Maximum Amount (Initial Term)	Option Agreement Number Agreement Performance Beginning Date Current Agreement Expiration Date

1. **OPTIONS**:

A. Option to extend for an Extension Term

2. **REQUIRED PROVISIONS:**

A. For use with Option 1(A): In accordance with Section 2.C., of the Original Agreement referenced above, the State hereby exercises its option for an additional term, beginning _____ and ending on the current Agreement expiration date shown above, at the rates stated in the Original Agreement, as amended.

3. **OPTION EFFECTIVE DATE:**

A. The effective date of this Option Letter is upon approval of the State Controller or _____, whichever is later.

STATE OF COLORADO John W. Hickenlooper, Governor Department of Natural Resources Colorado Water Conservation Board	In accordance with §24-30-202, C.R.S., this Option is not valid until signed and dated below by the State Controller or an authorized delegate. STATE CONTROLLER Robert Jaros, CPA, MBA, JD
Ву:	Ву:
Name:	Name:
Title:	Title:
Date:	Option Effective Date:

Exhibit C Page 1 of 1



Colorado Water Conservation Board					
	Water Supply Reserve Fund				
Exhibit A - Statement of Work					
Date:	March 5, 2018				
Water Activity Name:	North Platte Basin Airborne Cloud Seeding Project				
Grant Recipient:	Jackson County Water Conservancy District				
Funding Source:	Water Supply Reserve Fund-Basin Account \$150,000 District Cash Match - \$50,000 and \$12,000 In-kind CWCB \$57,500 In-kind (Target/Control Evaluation & Radiometer)				

Water Activity Overview:

WSRA funds will be expended to provide operational monies for a cooperative airborne cloud seeding project that is an extension into the Colorado portion of North Platte Basin of the Wyoming Water Development Office cloud seeding project in the Sierra Madre /Medicine Bow Mountains of southern Wyoming (WSRF funding will only be used for cloud seeding operations within the boundaries of the State of Colorado). This airborne cloud seeding project would be planned for a period of three years, but depending on weather conditions and number of flights could extend for an additional period of time. Mr. Joe Busto, Colorado Water Conservation Board Weather Modification Coordinator and Scientist Researcher was of the opinion that a three-year period of airborne cloud seeding will allow adequate time to fairly evaluate the benefits of airborne cloud seeding to snowpack augmentation and the North Platte Basin water supply.

Collaboration and cooperation between cloud-seeding programs could result in significant savings. The weather data used to predict, initiate, and terminate seeding events is readily available through the Internet, so utilizing meteorological suppolt teams for forecast for more than one project and/or target area is reasonable. Aerial seeding will occur upwind of the target watershed along a path perpendicular to the wind direction, at distances related to the storm wind velocities and ice crystal growth times. Cloud seeding would be temporarily suspended or curtailed when snowpack snow water equivalent thresholds are exceeded, during emergencies in the target area and when high avalanche hazard levels warrant suspension.

Objectives:

- 1) Snowpack augmentation by airborne cloud seeding to increase annual North Platte Basin water supply for consumptive and non-consumptive uses
- 2) Evaluate the cost benefit of airborne cloud seeding to the North Platte Basin
- 3) Demonstrate that a cooperative airborne cloud seeding project can be economically beneficial and effective to all parties participating in the project

Tasks

<u>Task 1 -</u> Permitting and Fees

Description of Task:

Payment of costs to obtain weather modification permit to conduct airborne cloud seeding in the North Platted River Basin. Includes cost for legal notifications, holding public hearings, initial permit fee, commercial permit fee (2% of contract cost), and consulting costs to assist in completion of permit application.

Method/Procedure:

Payment of invoiced expenses

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

Information on public comments received regarding project and copy of weather modification permit issued to contractor

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

Copies of invoices received for legal notices, public hearing cost and permitting costs and fees and copy of approved weather modification permit issued to contractor.

Tasks

Task 2 - Target/Control Analysis and Annual Evaluation

Description of Task:

Target/Control Analysis using SNOTEL Data to obtain permit and annual reports in accordance with §36-20-117(3) C.R.S.

Method/Procedure:

CWCB Weather Modification funding provided as in-kind contribution will fund Target/Control Analysis District and WSRF funding will pay invoiced costs for annual evaluations

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

Documentation that costs have been incurred and paid

CWCB Deliverable:(Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

Copies of invoices received for annual evaluations and evidence that Target/Control Analysis was completed

Tasks

Task 3 - Cloud Seeding Operations

Description of Task:

Aircraft flight hours, aircraft fuel, Burn-in-place pyrotechnics and Ejectable pyrotechnics (seeding

agents) Method/Procedure:

Pay invoices received for operational costs

Grantee Deliverable:(Describe the deliverable the grantee expects from this task)

Documentation that costs have been incurred and paid

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

Copies of invoices received for cloud seeding operations

Tasks

Task 4 - Radiometer Operations (CWCB In-kind contribution to project)

Description of Task:

Operation of microwave radiometer to detect liquid cloud water so that airborne cloud seeding can be more effective

Method/Procedure:

CWCB radiometer will be located in North Park to provide cloud LWC for the first year of project

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

Information on meteorological forecasting for optimum seeding conditions

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

Documentation that radiometer was utilized to provide valuable forecasting data

Tasks

Task 5 - Grant Management (In-kind contribution from JCWCD)

Description of Task: Prepare progress reports and reimbursement requests to CWCB

Method/Procedure Use volunteer time to prepare reports and reimbursement requests

Grantee Deliverable: Reports and Reimbursement records.

Budget and Schedule

Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined <u>Budget and Schedule</u> that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in <u>excel format</u>. A separate <u>excel formatted</u> Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.

Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the <u>entire</u> water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:

- (a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum inkind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.
- (b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.
- (c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.
- (d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

Last Update: 10/17/17



Department of Natural Resources

Colorado Water Conservation Board

Water Supply Reserve Fund

EXHIBIT B - BUDGET AND SCHEDULE - Direct & Indirect (Administrative) Costs

Date: March 5, 2018

Water Activity Name: North Platte Basin Airborne Cloud Seeding Project

Grantee Name: Jackson County Water Conservancy District

Task No. (1)	Description	Start Date ⁽²⁾	End Date	Matching Funds (cash &	WSRF Funds	<u>Total</u>
<u></u>				in-kind) ⁽³⁾	(Basin Account)	
				**		
NO. 1	PERMITTING AND FEES	Sep-18	<u>Jun-22</u>	\$4,052	\$12,158	\$16,210
	TARGET/CONTROL ANALYSIS AND			\$30,000 In-kind		
NO. 2	ANNUAL EVALUATIONS	Sept18	Jun-22	\$3,750 Cash Dist.	\$11,250	\$45,000
NO. 3	CLOUD SEEDING OPERATIONS	Sep-18	Jun-22	\$42,198	\$126,592	\$168,790
NO. 4	Radiomter	Nov -18	Apr-19	\$27,500 In-kind		\$27,500
NO.5	Grant Management	Sep-18	Jun-22	\$12,000 In-kind		\$12,000
or angular south			Total	\$119,500	\$150,000	\$269,500

- (1) The single task that include costs for Grant Administration must provide a labor breakdown (see Indirect Costs tab below) where the total WSRF Grant contribution towards that task does not exceed 15% of the total WSRF Grant amount.
- (2) Start Date for funding under \$100K 45 Days from Board Approval; Start Date for funding over \$100K 90 Days from Board Approval.
- (3) Round values up to the nearest hundred dollars.
- Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)
- NTP will not be accepted as a start date. Project activities may commence as soon as the grantee enters contract and receives formal signed State Agreement.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of the CWCB staff project manager. Once the Final Report has been accepted, the final payment has been issued, the water activity and purchase order (PO) or contract will be closed without any futher payment. Any entity that fails to complete a satisfactory Final Report and submit to the CWCB with 90 days of the expiration of the PO or contract may be denied consideration for future funding of any type from the CWCB.

- Additionally, the applicant shall provide a progress report every 6 months, beginning from the date of contract execution
- Standard contracting proceedures distate that the Sypiration Date of the contract shall be 5. Years from the Effective Date.

NORTH PLATTE BASIN AIRBORNE CLOUD SEEDING PROJECT - BUDGET DETAIL

					Year		
Permitting and Fees	Ye	ar One	Ye	ar Two	Three	•	Total
Notices of Intent	\$	1,000	\$	1,000	\$ 1,000	\$	3,000
Hearing Costs	\$	1,500	\$	1,500	\$ 1,500	\$	4,500
Permit Fee	\$	250				\$	250
Commercial Fee (2% of Contract Cost)	\$	1,320	\$	1,320	\$ 1,320	\$	3,960
Assistance with Completion of Permit Application	\$	1,500	\$	1,500	\$ 1,500	\$	4,500
Subtotal Permitting and Fees	\$	5,570	\$	5,320	\$ 5,320	\$	16,210

Evaluation Costs	Year One	Year Two	Year Thr	Total
Set-up & 1st Season, Target-Control Analysis (using SNOTEL data)	\$ 30,000			\$ 30,000
Annual Evaluations (subsequent seasons)	\$ 5,000	\$ 5,000	\$ 5,000	\$ 15,000
Subtotal. Evaluation:	\$ 35,000	\$ 5,000	\$ 5,000	\$ 45,000

Cloud Seeding Operations Costs	QTY/Yr	Year One	Year Two	Year Thr	Total
Flight Hours	32	\$11,200	\$11,200	\$11,200	\$33,600
Fuel gallons	1920	\$7,680	\$7,680	\$7,680	\$23,040
Seeding Agent - Burn-in-place Pyrotechnics	256	\$21,248	\$21,248	\$21,248	\$63,744
Seeding Agent - Ejectable Pyrotechnics	481	\$15,392	\$15,392	\$15,392	\$46,176
Miscellaneous		\$740	\$745	\$745	\$2,230
Subtotal Operations		\$56,260	\$56, 2 65	\$56,265	\$168,790
Flight hours (dry) @ \$350.00 per hour					
Fuel billed at actual cost, presently \$4.00/gal					
Burn-in-place Pyrotechnics (150 grams each @\$83)					
Ejectable Pyrotechnics (20 grams each @\$32)					

Radiometer Operation		Year One	Year Two	Year Thr	Total
		\$27,500	0	0	\$27,500
	Subtotal Radiometer	<i>\$27,500</i>	0	<u> </u>	\$27,500

Grant Management		Year One	Year Two	Year Thr	Total
		\$4,000	\$4,000	\$4,000	\$12,000
	Subtotal Grant Management	\$4,000	\$4,000	\$4,000	\$12,000