



Boulder County
Colorado

COMMUNITY DEVELOPMENT BLOCK GRANT- DISASTER RECOVERY

Flood Recovery Home Access Program

**RESIDENTIAL BID AND PROPOSAL DOCUMENTS
FOR HOME ACCESS RESTORATION & REPAIR
Winter 2015**

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1. Program Summary

The Community Development Block Grant- Disaster Recovery (CDBG-DR) Home Access Program provides assistance to households to restore home access structures that were damaged and/or destroyed by the 2013 Flood Event. The Home Access program helps homeowners rebuild private bridges, culverts, driveways, and roads. As of April 2015, Boulder County has been awarded \$2,000,000.00 for the program, which is currently oversubscribed.

The Home Access Program is administered by Boulder County's Transportation Department with funding made available through the Colorado Department of Local Affairs (DOLA), the Colorado Division of Housing (DOH), and the United States Department of Housing and Urban Development (HUD). Boulder County Transportation staff work to ensure that all funds are expended in a manner that remains compliant with all County, State, and Federal regulations.

All contracts are entered by and between the residential client and their chosen contractor. Client will approve invoices, and Boulder County will pay firms directly, on behalf of the residential client. To ensure regulatory compliance, Boulder County requires a contract addendum to be included with the contract between each client and contractor. Examples of two types of contract addenda are included in this document (Attachments C & I). Clients are required to source three (3) proposals/ bids for all the Home Access work so that Transportation staff may review proposals and verify that all work is necessary and cost-reasonable. Bids are required to be submitted in a fashion that allows Boulder County staff to review and fairly compare proposals and bids, and ensure that programmatic requirements are met. Engineering and modeling proposals will be evaluated with consideration of cost competitiveness, firm experience and expertise, and proposed schedule. Construction bids will be awarded by the client to the lowest, most responsive bidder.

All questions regarding Home Access projects should be directed to Matt Betz and Kate Williams:

Matt Betz
Boulder County Home Access Coordinator
303-441-1723
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2. Engineering/ Modeling

Scope of Services

This project will replace a damaged or destroyed home access structure or repair a damaged driveway or private road at the client's property and may include the removal and disposal of old destroyed bridge or culvert components. Structures should be designed to meet all minimum permitting and construction requirements, with consideration toward ensuring resiliency. Structure design shall avoid the addition of any extraordinary or unnecessary items like decorative railing, etc., as such components are not eligible as part of the CDBG-DR Home Access Program, unless the client is willing to financially cover such expenses. The tasks listed below compose the anticipated Scope of Services for access engineering and modeling funded through the Home Access Program. This Scope of Services shall be incorporated into the contract between client and contractor.

Task 1: Background and Site Studies

Proposer is expected to participate in all phases of the project and to keep client and Boulder County staff informed of progress in a regular and timely manner.

- A. Attend periodic stakeholder progress meetings with client and key Boulder County staff as needed, including, but not limited to a kick-off meeting to discuss modeling, permitting and Home Access Program information and requirements.

Deliverable: Meeting minutes delivered within three (3) working days.

Proposer is expected to appropriately prepare for the project.

- B. Gather, review and follow all relevant information guidance and requirements pertaining to the Home Access Program, including, but not limited to:
 - i. Boulder County Transportation 'Bridge Construction Permit Requirements' webpage for a complete list of requirements and resources:
<http://www.bouldercounty.org/roads/permits/pages/bridgeconstructionpermit.aspx>
 - ii. Bridge Codes, Standards and Criteria
<http://www.bouldercounty.org/doc/transportation/bridgecodesstandardsandcriteria.pdf>
 - Boulder County *Storm Drainage Criteria Manual*
<http://www.bouldercounty.org/property/flood/pages/stormdrainagemanual.aspx>
 - Boulder County Land Use Code Section 4-400
<http://www.bouldercounty.org/doc/landuse/lucodearticle04.pdf>
 - Boulder County Multimodal Transportation Standards
<http://www.bouldercounty.org/doc/transportation/multimodaltransstds.pdf>
 - iii. *General Information and Technical Guidance* for the scope of work for engineering and modeling. (Attachment A) <http://www.bouldercounty.org/doc/transportation/bridgeguidance.pdf>
 - iv. *Bridge Permitting Checklist*. (Attachment B)
<http://www.bouldercounty.org/doc/transportation/bridgepermitchecklist.pdf>
 - v. To ensure Home Access Program regulatory compliance, Boulder County requires an addendum to be included in the contract between consultant and client (Attachment C).
 - vi. Other general data gathering and review, including the collection of data such as existing mapping, roadway as-built documents, bridge plans, pertinent previously completed hydrologic and hydraulic studies, LIDAR data, CDOT standards and Access Permit requirements, or other items.

Proposer will conduct and prepare necessary investigations and reports for pre-design effort in a manner that meets best practices and standards for this type of engineering project. This includes, but may not be limited to:

C. Utility research and locates.

Deliverable: Utility locate tickets and identification on topographic survey exhibit/map (Task 1.D. below). Deliverables should be submitted with/ incorporated in Preliminary Plans (Task 4.a.).

D. Site topographic surveying to a level of detail suitable for hydraulic modeling and final design, including the establishing of benchmarks for construction. Includes all items necessary to complete detailed survey map.

- i. Survey limits, number of cross sections and extents should be determined by engineer, in consultation with Boulder County staff, as necessary.
- ii. Survey to be tied to NGS Bench Mark (NAVD 1988) and will be tied to State Plane Coordinates, North Zone 1983/ 07.

Deliverable: Topographic Survey Exhibit/ plan sheet incorporated in to Preliminary and Final Plan sets.

E. Geotechnical testing and recommendations, including groundwater analysis, as necessary to meet bridge design and engineering permit requirements and engineering best practices; including bores within and adjacent to the channel as needed for bridge structure design (drilled to bedrock or between 25' and 40'), lab work, engineering analysis and reporting for structure construction and all other items necessary to complete geotechnical report.

Deliverable: Stamped/ Signed Geotechnical Report.

Task 2: Floodplain Modeling

The purpose of the modeling is to demonstrate that any structure placed in the regulatory floodplain will not have a negative impact on that floodplain. General guidance can be found below; refer to "Section II— Technical Guidance" in Attachment A for additional guidance and requirements. The CLOMR/LOMR subsection below is included in the event it is necessary; however, it is not anticipated to be needed. This task also includes all incidental work items not specifically listed here that are required to complete this task. If the project accesses CDOT right of way, the proposer is responsible for submitting modeling to CDOT for review and approval. CDOT materials should be submitted directly to Gloria Hice-Idler at gloria.hice-idler@state.co.us.

NOTE: *All modeling must be completed and approved prior to structural design commencing or changes will need to be made based on modeling revisions, if any occur.*

UPDATE: *The submittal of hydraulic modeling at the 30% design phase is the point of full-submittal for hydraulic modeling. Any changes to the model, no matter how small, will need to be outlined in close detail in a signed letter at the point of full design submittal (application submittal).*

Hydraulic Analyses:

- A. Assumptions: A 'no rise' analysis and certification submitted to Boulder County staff for review is required. Applicant will address Boulder County comments with additional information or modification of design and resubmittal if necessary. FEMA submittals will only be required if 'no-rise' cannot be shown. Surveyed cross sections are required to supplement other topographic data when developing an existing/ pre-project condition.
- B. Hydrologic modeling of the watershed will not be required. The regulatory discharges from the effective FEMA Flood Insurance Study, CDOT/CWCB post-flood discharge estimates, or best available data approved by Boulder County will be utilized for the hydraulic design.

- C. The hydraulic analyses will use the USACE’s HEC-RAS version 4.1 computer model or best practices, as directed by Boulder County staff, depending on the situation. Hydraulic analyses will be completed for the 10-year (freeboard), 25-year (scour), 50-year (scour countermeasures), and 100-year (no-rise) events.

Deliverable: Hydraulic Analysis Report, including brief summary report, and:

- Digital copies of the hydraulic models (input and output files).
- All assumptions and boundary conditions used in the analysis.

Hydraulic Design:

- D. Crossing design and associated hydraulic analyses shall be refined until it is possible to:
- i. Document no impacts to neighboring properties and structures.
 - ii. Meet low-chord freeboard and address overtopping criteria.
 - iii. Determine required bridge/ culvert opening.
 - iv. Address scour and develop scour countermeasures
 - v. Address hydraulic impacts of pier/ abutment configurations.
 - vi. Address impacts and modifications necessary to mitigate any adverse impacts.
- E. Hydraulic design shall include, but may not be limited to, the following elements:
- i. Bridge (or culvert) opening parameters—total span length, low-chord elevation and pier configuration, as necessary.
 - ii. Hydraulic design parameters to support the design and protection of utilities within the corridor, especially in the channel near the bridge opening, as necessary.
 - iii. The hydraulic design parameters for channel stabilization, bank protection, and scour countermeasures to protect the new structure.

Deliverable: Brief summary report at point of submittal outlining hydraulic parameters and elements listed above including a signed letter detailing any and all changes to hydraulic model from point of initial approval, described in close detail.

CLOMR/ LOMR Alternative

- F. If showing ‘no rise’ is not possible, proposer and client shall meet with Boulder County staff to discuss constraints and submitting a CLOMR Application.
- i. Client and proposer shall receive approval from Boulder County staff prior to preparing and submitting CLOMR.
 - ii. Unless otherwise directed by Boulder County staff, no additional design costs shall be incurred until FEMA has approved the CLOMR.
 - iii. Applicant must also obtain a LOMR once the bridge has been constructed.
 - iv. This pay item (CLOMR/ LOMR Alternative) should be proposed in two parts, the first for all work required to prepare and submit all CLOMR and LOMR application materials and supporting documents, including any follow-up or resubmissions required by FEMA, and the second for the FEMA permit fees.

Task 3: Applications, Forms and Permitting

Proposer shall identify and prepare all necessary permit applications and obtain required permits for construction of this project, as applicable. Deliverables for each item include completed application/ form and its submittal along with all required supporting documents, and any follow-up and re-submission necessary to obtain said permit. This task also includes all incidental work items not specifically listed here or included as part of another task that are required to complete this task. Permit fees (excluding Boulder County permit fees), as

applicable, shall be included in proposed price for this task. The list below may not be an exhaustive list of required permits, it is the proposer's responsibility to determine necessary permits and/or document why certain may not be necessary, as applicable.

- A. USACE consultation required; depending on changes to footprint/structure design USACE Nationwide permit or full Section 404 Permit (Wetlands Permit) may be required.
- B. Boulder County Bridge Permit Application.
 - i. See Bridge Permit Checklist for link to application form and submittal requirements. This is the joint application for a Floodplain Development Permit (FDP), a Building Permit, and a Boulder County Access Permit.
 - ii. Engineer is not responsible for Bridge Permit application fees. Contractor will be responsible for Boulder County permit fees at time of permit issuance, charged to client, at cost.
- C. Fire Protection District Bridge Form.
 - i. Form shall be completed and submitted in conjunction with both the Preliminary Plan (30%) submittal and the Bridge Permit Application.
- D. Ditch Companies.
 - i. Where applicable (bridge impacts a ditch), approval/agreement/acknowledgement from ditch companies is required. A statement of non-applicability or results of consultation with ditch company(s) is required with the Preliminary Plan (30%) submittal.
- E. A preliminary Traffic Control Plan template will be provided to selected engineer to submit with the Bridge Permit Application, which will need to be reviewed, signed, and stamped by a certified Traffic Control Supervisor to include any modifications for site specific conditions, before final submission of the Building Permit.
- F. If the project accesses CDOT right of way, proposer is responsible for the following items
 - i. Applying for the following permits on behalf of the client. These permits may be transferred to the client or construction contractor, as appropriate. The Purpose of this is to avoid construction delay.
 - 1. CDOT Access Permit
 - 2. CDOT Special Use Permit (for traffic control)
 - ii. Submittal of all permit applications to CDOT* for permits listed above, including
 - 1. Applications
 - 2. Plans
 - 3. Letters of explanation
 - 4. Traffic Control Plan (for Special Use Permit)
 - 5. Certificate(s) of insurance

* CDOT materials should be submitted directly to Gloria Hice-Idler at gloria.hice-idler@state.co.us
- G. Proposer is not responsible for completing the Environmental Assessment; however, it must be finalized and approved prior to proposer commencing work on the Final Construction Plan Set (Task 4.B.). Proposer shall incorporate environmental compliance requirements of construction into the Final Construction Plan Set.
- H. CDPHE Construction Dewatering Permit application. Engineer shall apply for said permit and plan to transfer it to the construction contractor after contractor enters into contract with the client(s). The purpose of this is to avoid construction delay.

Task 4: Design & Construction Documents

Bridge design and construction submittals are expected to reach two milestones: Preliminary Plan Set (30%) and Final Construction Plans. Bridge plans are expected to comply with all codes, standards and criteria, including, but not limited to, those described under Task 1. Designs for water-crossing structures (bridges, culverts) should also incorporate design of any driveway necessary to connect the right-of-way to the water-crossing structure and then to the client's/clients' residence(s). If the project accesses CDOT right of way, the proposer is responsible

for submitting structural designs to CDOT for review and approval. CDOT materials should be submitted directly to Gloria Hice-Idler at gloria.hice-idler@state.co.us.

- A.** Design and produce drawings for the Preliminary set of plans (approximately 30% complete), for review and comment by client and Boulder County staff.
- i. Preliminary plans shall address fire district, ditch company, and utility coordination, and be consistent with the Geotechnical report, which shall be submitted along with the plan set.
 - ii. Typical preliminary plan sheets may include, but are not limited to: Cover sheet, area map, standard notes, legend and symbols, standard CDOT plans list, topographic survey exhibit/map, survey tabulations, typical sections, etc., as necessary.
 - iii. Preliminary plans shall be accompanied by an Engineer's Estimate of construction cost (CDOT item number, item name, unit type, estimated units (quantity), estimated cost per unit, extended cost per item, total estimated construction cost).

Deliverables: Preliminary Plan Set, Engineer's Estimate.

**Please Note: The Environmental Assessment (completed by the Department of Local Affairs) for each address must be finalized and approved prior to commencing work on the Final Construction Plan Set. Firms will receive notification when they are permitted to proceed beyond Task 4.A.*

- B.** Design and produce drawings for the Final Construction Plan Set (100% complete), which shall include the incorporation of comments provided by the client and/or by Boulder County on behalf of the client on the Preliminary Plan Set, as well as feedback generated through the floodplain modeling and permitting processes.
- i. Final construction plans should include all information needed for bidding and construction.
 - ii. Final construction plans shall be prepared in accordance with engineering best practices and must be stamped and signed by an engineer registered in the State of Colorado.
 - iii. Typical final set of plans are expected to include, but are not limited to, the following sheets/information:
 - a) All sheets included as part of the preliminary plan set submittal.
 - b) Demolition Plan, if applicable, for the removal of existing damage bridge or culvert structure. Any required phasing of demo items will be clarified, and demo notes added. Demo items will have hatching to ease readability.
 - c) Erosion Control Plan (CDOT format). It is anticipated that this project will disturb less than 0.5 acres, therefore a full Storm Water Management Plan (SWMP) is not expected to be required.
 - d) Detailed grading plan, including bank stabilization and re-vegetation, as is outlined in 'Conservation Measures to Avoid and Minimize Potential Effects on Threatened and Endangered Species' (Attachment D). Bank stabilization is limited to what the engineer determines is necessary to fortify the access structure. Re-vegetation will be limited to the footprint of construction disturbance.
 - e) Structural Drawings, including structural details.
 - iv. Final Construction Plans shall be accompanied by a Final Engineer's Estimate of construction costs, a complete set of all specifications and special instructions, including a brief construction phasing plan, and a Construction Bid Tabulation Form (Excel format; examples may be provided) for use by client when bidding the construction phase of this project.

Deliverables: Final Plan Set (stamped/signed), including, but not limited to all items listed above; Final Engineer's Estimate (stamped/signed); Bid Tab (Excel).

Task 5: Construction Management

Proposer is expected to assist client in a construction management and inspection role throughout the construction phase of this project. Construction management responsibilities include:

- A.** Be periodically available to client, Boulder County staff and construction contractors via telephone and e-mail to answer questions about plans during pre-construction and construction phases.
- B.** Host pre-construction meeting on-site with client, Boulder County staff, and construction contractor prior to construction-start to ensure project understanding, etc.
- C.** Initiate transfer of Dewatering Permit from engineer to construction contractor.
- D.** Conduct periodic field visits to construction site at a frequency which will ensure proper oversight of construction, conservation measures, traffic control, and to ensure structure is built per the Final Construction Plans. Multiple photographs should be taken during each site visit documenting the 'before and after' site conditions, as well as construction in-progress, including documentation of environmental compliance, etc.

Deliverable: [Tasks 5 A-D] Document decisions made/ direction given, compliance, construction progress at site visits, construction plan red lines, photographs, etc. into project notebook to be submitted to client and Boulder County at conclusion of project, or upon request.

- E.** Prior to pouring of the concrete abutments, a survey should be performed by a Colorado registered land surveyor (P.L.S.), documenting the geographic coordinates and the elevation of the top of the abutments conform to the design plans and hydraulic model. The elevation of the top of the abutments must be equal to or greater than the elevation shown in the plans.

Deliverable: This information shall be submitted by a Colorado registered land surveyor in a stamped and signed Hydraulic Conformance Letter to Boulder County Land Use Building Division.

- F.** Review of contractor's construction invoices, including validation of quantities utilized.

Deliverable: Sign-off on contractor's invoices and compilation/ packaging of all necessary supporting documentation (receipts, load tickets, etc.).

- G.** Third- party concrete testing should be conducted at the time of concrete pouring. Test results shall be submitted to Boulder County and the Primary Consultant. Concrete testing should utilize industry accepted methods for evaluation, per Boulder County's Minimum Guideline for Sampling and Testing (Attachment E).

Deliverable: Signed concrete testing report from third-party, submitted to Access Coordinator and leading project consultant.

- H.** Prepare and submit written confirmation (letter) to Boulder County Transportation confirming project was constructed in accordance with Final Construction Plans. Letter to be stamped and signed by an engineer registered in the State of Colorado.

Deliverable: Stamped and signed Letter.

- I.** Prepare and produce of as-built documents, including all items (survey, etc.) necessary to complete standard as-built documents, prepared in accordance with best engineering practices.

Deliverable: Stamped and signed as-built plans.

Proposal Deliverables

Proposals, including all of the items listed in this document, shall be submitted electronically to the client, and will be reviewed by Boulder County staff. No proposal shall be withdrawn for a period of thirty (30) days without the consent of the client. It is highly recommended that proposers visit the project site prior to submitting a proposal; failure to do so is at the proposer's own risk. Proposals will be evaluated with consideration of cost competitiveness, firm experience and expertise, and proposed schedule.

- A. Completed qualifications packet if proposing firm is not on the established Prequalified List.
 - i. If your firm is not on the Boulder County Prequalified list for the Home Access Program, please contact Matt Betz or Kate Williams for more information about qualifications packet submittal requirements.
- B. Rate sheet for firm to be utilized if additional services beyond those listed within this Scope of Services is required.
- C. Proof of insurance. (See Attachment F)
 - i. Prior to signing any client contract, hired firms must submit Certificates of Insurance (COIs) to Home Access Coordinator and receive written confirmation of sufficient insurance coverage.
- D. Anticipated project schedule for all tasks, sub-tasks, and deliverables described within.
 - i. Completion of Tasks 1-4 on an aggressive schedule is desired.
 - ii. Project schedules should contain objectives on a week-to-week basis.
- E. Completed Engineering Bid Tabulation sheet. (Attachment G)
 - i. Respondents to this requested Scope of Services (Proposer) shall include fees for all of the Tasks included within (i.e. no task or sub-task should be left blank).
 - ii. **All costs submitted are not-to-exceed amounts**, and shall include all associated costs, including those incidental to performing tasks as described and items not specifically described that can be reasonably anticipated by the proposer.
 - iii. **All pay items are listed on the bid tabulation sheet.** Proposer will not be reimbursed separately for incurred costs for printing, mileages, etc.
 - iv. The proposal price shall be exclusive of Federal and State taxes from which the County of Boulder is exempt by law.
- F. Signature Page. (Attachment H)

Payment Process

Consultants may submit three separate invoices to their client(s) for approval. Please note that all proposed costs are not to exceed amounts and all pay items are listed on the bid tabulation sheet.

Invoice #1 The first invoice may be submitted at the completion of preliminary design, which includes Tasks 1 & 2, parts of Task 3, and Task 4a. Payment will be made after review and acceptance of the submittal.

Invoice #2 The second invoice may be submitted at the completion of final design (Task 4.b.) and the remaining parts of Task 3 required for the submission of the Boulder County Bridge Permit Application. Payment will be made after permits are able to be issued.

Invoice #3 The final invoice, for Task 5, may be submitted at the completion of the tasks within, following construction. Payment will be made after construction passes a final inspection by Boulder County.

3. Construction

Scope of Services/ Term & Conditions/ Notices

This project will replace a damaged or destroyed home access structure or repair a damaged driveway or private road at the client's property and may include the removal and disposal of old destroyed bridge or culvert components. The structure has been professionally designed, and stamped plans and a bid tabulation form with pay items and estimated material quantities will be provided for contractor bidding. Project work, according to the set of plans, may include: construction staking, erosion control, traffic control, installation of a bridge culvert or driveway/ private road repair, installation of temporary access for client (if applicable), removal of existing access structures (if applicable), compliance with other permit and environmental regulations, etc.

- A. Contracts will be entered into between the client and selected bidder; to ensure CDBG-DR Home Access Program regulatory compliance, Boulder County requires an addendum to be included in the contract between the contractor and client (Attachment I).
- B. Where applicable, due to program requirements, separate bids and contracts will be required for 1) the clearance and demolition of existing structures, and 2) the construction of new structures. Bids will be awarded to a single contractor for both projects.
- C. Bidders are expected to examine the drawings, specifications, permits, and all instructions; failure to do so will be at the bidder's risk. It is highly recommended that bidders visit the project site prior to submitting a bid.
- D. No proposal shall be withdrawn for a period of thirty (30) days without the consent of the client.
- E. The proposed price shall be exclusive of any Federal or state taxes from which the County of Boulder is exempt by law.
- F. Contractor proposes to furnish all labor, machinery, equipment, materials and supplies, and to sustain all expenses incurred in doing the work per the proposal schedule, and to do so in accordance with the full details, plans, and specifications.
- G. Contractor shall adhere to practices outlined in 'Conservation Measures to Avoid and Minimize Potential Effects on Threatened and Endangered Species' (Attachment D).
 - i. Revegetation will be limited to the footprint of construction disturbance.
 - ii. Creek bank stabilization requirements will be limited to that included in structure plans.
 - iii. Should additional work be required beyond what is listed here, a change order will be issued to contractor.
- H. The Colorado Department of Transportation's Standard Specifications for Road and Bridge Construction - 2011, and as revised by the special provisions, shall be used to control work on this project, except where otherwise noted.
- I. The items of work and the unit prices contained in the bid are described in and are a part of the Standard Specifications and are to be the method of measurement for project quantities and the basis of payment.
- J. The bid tabulation sheet is an exhaustive list of all pay items. Proposer will not be paid separately for incurred costs for bonds, permitting, mileage, or any other work not included on the bid tabulation sheet.
- K. The bid tabulation form includes estimated material quantities. Contractor will be paid on actual quantities utilized on project, which may be more or less than the estimated quantities on the bid tabulation form.
- L. A change order must be approved by client, engineer/ construction management firm and Boulder County for any substantial changes in quantities or plans/ scope of work prior to proceeding with any work that may result in additional project costs.

- M. For all work taking place in the public right of way, an approved traffic control plan must be implemented. A preliminary Traffic Control Plan will be approved as part of the Bridge Permit and provided as part of the bid package for bidding consideration. Contractor may submit a revised MHT for approval, if necessary.
- N. Any consultants/contractors identified as “barred” by the federal System for Award Management (“SAM”) will be unable to receive any DR funds. More information about SAM is available at <https://www.SAM.gov>.
- O. Contractors must secure Performance and Payment Bonds for project if awarded a contract by client. The combined Performance and Payment Bonds must be equal to fifty percent (50%) of the contract amount. No contract shall take affect or be in force until the Contractor has furnished and delivered to the client and Boulder County acceptable surety bonds, in a penal sum equal to the nearest integral \$100.00 in excess of 50% of the contract price, duly executed by a corporate surety, qualified and licensed to do business in Colorado and maintaining a general agent therein.
- P. Contractors must adhere to Federal Section 3 requirements (Attachment J).
- Q. Davis Bacon Act compliance is **not required** for this project.
- R. Contractor must be able to meet minimum insurance requirements (Attachment F).
- S. Contractor must have all licenses, certifications, approvals, permits, insurance, and other authorization required by law to perform this project and must maintain all necessary licenses, certifications, approvals, permits, insurance, and other required authorizations in order to be eligible for project payment.
- T. A valid Boulder County Contractor License, class A, B, C, or M, as applicable, is required. Details can be found at the Land Use Building Safety and Inspection Services Website: <http://www.bouldercounty.org/property/build/pages/contractorlicensing.aspx>.
- U. Project objectives require the proposed structure to be completed expeditiously. Proposal deliverables outlined below include the submission of a detailed project schedule.
- V. Construction bid will be awarded by the client to the lowest, most responsive bidder where said bid suits the client’s interests and meets all program requirements.
- W. Contractor will be responsible for Boulder County permit fees, charged to client at cost. This item has been identified on the Bid Tab form with a placeholder bid price inserted so that all bidders bid the same cost.
- X. Contractor may not pour any part of the structure until the construction management firm completes a survey by a Colorado registered land surveyor, documenting the geographic coordinates and the elevation of the top of the abutments conform to the design plans and hydraulic model. The elevation of the top of the abutments must be equal to or greater than the elevation shown in the plans. Said survey is the responsibility of the engineer/ construction management firm and shall be scheduled by the construction contractor to avoid any work delays. No approval of survey is required and no stoppage of work is anticipated unless the survey proves a need for a realignment of bridge location/ abutment elevation.
- Y. Bidders are also expected to be familiar with other relevant information, guidance and requirements pertaining to the Home Access Program, including, but not limited to:
 - i. Boulder County Transportation ‘Bridge Construction Permit Requirements’ webpage for a complete list of requirements and resources: <http://www.bouldercounty.org/roads/permits/pages/bridgeconstructionpermit.aspx>
 - ii. *Bridge Codes, Standards and Criteria* <http://www.bouldercounty.org/doc/transportation/bridgecodesstandardsandcriteria.pdf>
 - iii. *Boulder County Storm Drainage Criteria Manual* <http://www.bouldercounty.org/property/flood/pages/stormdrainagemanual.aspx>
 - iv. Boulder County Land Use Code Section 4-400 <http://www.bouldercounty.org/doc/landuse/lucodearticle04.pdf>
 - v. Boulder County Multimodal Transportation Standards <http://www.bouldercounty.org/doc/transportation/multimodaltransstds.pdf>
 - vi. *General Information and Technical Guidance* for the scope of work for engineering and modeling. (Attachment A) <http://www.bouldercounty.org/doc/transportation/bridgeguidance.pdf>
 - vii. *Bridge Permitting Checklist*. (Attachment B) <http://www.bouldercounty.org/doc/transportation/bridgepermitchecklist.pdf>

Proposal Deliverables

Proposals, including each of the items listed here, shall be submitted electronically to the client, and will be reviewed by Boulder County staff.

- A.** Completed qualifications packet if proposing firm is not on the established Prequalified List.
 - i.** If your firm is not on the Boulder County Prequalified list for the Home Access Program, please contact Matt Betz or Kate Williams for more information about qualifications packet submittal requirements.
- B.** Proof of insurance. (Attachment F)
 - i.** Prior to signing any client contract, hired firms must submit Certificates of Insurance (COIs) to Home Access Coordinator and receive written confirmation of sufficient insurance coverage.
- C.** Copy of contractor license. (See item T above)
- D.** Detailed project schedule.
 - i.** Completion of the project on an aggressive schedule is desired.
 - ii.** Project schedules should contain objectives on a week-to-week basis.
- E.** Completed bid tabulation sheet.
 - i.** The bid tabulation sheet is an exhaustive list of all pay items.
 - ii.** The bid tabulation form includes estimated material quantities. Contractor will be paid on actual quantities utilized on project.
- F.** Signature Page. (Attachment H)

Payment Process

Consultants may submit three separate invoices to their client(s) for approval.

Invoice #1 The first invoice, eligible for submittal after all excavation and footing/abutment work is complete, may be submitted to client for 50% of mobilization costs, materials used up to that point (actuals), and 50% of any lump sum pay items.

Invoice #2 The second invoice for work completed, less 10% retainage, may be submitted to client for consideration of payment upon the substantial completion of the project.

Invoice #3 A third and final invoice may be submitted after final inspection by the client, engineer/ construction management firm and Boulder County staff, completion of as-built plans by engineer/ construction management firm and confirmation that project was built in accordance with Final Construction plans, signed lien waivers from all sub-contractors and vendors and the close-out of all open permits.

Attachment A. Contract Addendum between Client and Consultant (Design Professional)

BOULDER COUNTY ADDENDUM
TO
CONTRACT BETWEEN CDBG-DR BENEFICIARY AND DESIGN PROFESSIONAL
FOR
HOME ACCESS PROJECTS PAID FOR WITH CDBG-DR FUNDS

This Addendum to Contract between Boulder County CDBG-DR Beneficiary _____ (“Beneficiary”) and _____ (“Design Professional”) is entered into as of the last date written below on the signature pages.

Recitals

A. Beneficiary applied for home access funding from the Community Development Block Grant – Disaster Recovery (“CDBG-DR”) program, which funds were initially awarded by the State of Colorado to Boulder County. In this Addendum, Boulder County will be referred to as “Grantee.”

B. Based on Grantee’s findings that Beneficiary is eligible for CDBG-DR assistance made available as a result of the September 2013 flooding and related disasters (the “Disaster”), that such assistance is reasonable and necessary, and that such assistance will not exceed the Beneficiary’s unmet need as determined by the State of Colorado’s procedure to prevent duplication of benefits, Grantee approved Beneficiary’s application, contingent on Beneficiary complying with certain conditions including, without limitation, the requirement that any contracts between Beneficiary and third-party vendors (such as Design Professional) to perform work paid for in whole or in part with CDBG-DR funds be made expressly subject to the terms of this addendum (the “Addendum”).

C. Contemporaneously with execution of this Addendum, Beneficiary and Design Professional are entering into a contract for certain home access work (the “Home Access Work”) paid for in whole or in part with CDBG-DR funds (the “Home Access Contract”).

D. Unless otherwise indicated, all capitalized terms in this Addendum are defined in the CDBG-DR Housing Grant Agreement between the State of Colorado, Department of Local Affairs and Boulder County, Contract Encumbrance # H5CDR14085 (“Grantee Contract”), a copy of which is available upon request to Grantee.

NOW THEREFORE, for and in consideration of the mutual promises contained herein, Beneficiary and Design Professional agree as follows:

1. **Plans & Specifications.** When required by the applicable permitting process, construction plans and specifications (the “Plans”) shall be drawn up by a qualified engineer or architect licensed in the State of Colorado or pre-engineered in accordance with Colorado law. When required by the applicable permitting process, all Plans must be stamped by a licensed professional civil engineer in the State of Colorado. When it is not required by the applicable permitting process, work that is not structural in nature and that would not normally require an engineer or architect for permitting, or would require

no permit, is exempt from these requirements. Instead, scaled drawings would be made by staff or other capable individuals identified by Grantee at discretion of Grantee on nonstructural work (“Drawings”).

2. **Construction Standards.** In accordance with HUD guidance on use of CDBG-DR funds, see 79 Fed. Reg. 31972, to the greatest extent feasible all home access projects should apply appropriate construction standards to mitigate risk, which may include: (a) raising utilities or other mechanical devices above expected flood level; (b) wet flood proofing in a basement or other areas below the Advisory Base Flood Elevation/best available data plus one foot; (c) using water resistant paints or other materials; or (d) dry flood proofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.
3. **Mandatory Mitigation Requirements.** If a new construction, reconstruction, or substantial improvement project or activity is located in a floodplain, the lowest floor must be designed using the base flood elevation, determined in accordance with the best available data, plus one foot as the baseline standard for elevation. The relevant data source and best available data under Executive Order 11988 is the latest issued FEMA data or guidance, which includes advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps. See also 24 CFR 55.2(b)(8). If higher elevations are required by locally adopted code or standards, those higher standards would apply.
4. **Permits Required.** All work funded by CDBG-DR must be appropriately permitted by local, state, and federal agencies, including obtaining floodplain development permits where applicable.
5. **Licenses, Permits, etc.** Design Professional represents and warrants that as of the effective date of this Addendum it has, and that at all times during the term hereof it shall have, at its sole expense, all licenses, certifications, approvals, insurance, permits, and other authorization required by law to perform its obligations hereunder. Design Professional warrants that it shall maintain all necessary licenses, certifications, approvals, insurance, permits, and other authorizations required to properly perform the Home Access Work, without reimbursement by Grantee or other adjustment in contract amounts. Additionally, all employees and agents of Design Professional performing Home Access Work shall hold all required licenses or certifications, if any, to perform their responsibilities. Design Professional, if a foreign corporation or other foreign entity transacting business in the State of Colorado, further warrants that it currently has obtained and shall maintain any applicable certificate of authority to transact business in the State of Colorado and has designated a registered agent in Colorado to accept service of process. Any revocation, withdrawal or non-renewal of licenses, certifications, approvals, insurance, permits or any such similar requirements necessary for Design Professional to properly perform the Home Access Work shall be deemed to be a material breach by Design Professional and constitute grounds for termination of the Home Access Contract.
6. **Standard and Manner of Performance.** Design Professional shall perform its obligations hereunder in accordance with the highest standards of care, skill and diligence in the industry, trades or profession and in the sequence and manner set forth in the Home

Access Contract and this Addendum. Beneficiary and Grantee shall be the sole judge of the quality of performance.

7. **Exclusion, Debarment, and/or Suspension.** Design Professional represents and warrants that neither Design Professional nor any of its subcontractors, employees, or authorized agents are presently excluded from participation, debarred, suspended, proposed for debarment, declared ineligible, voluntarily excluded, or otherwise ineligible to participate in a federal payment program by any federal or State of Colorado department or agency. If Design Professional, or any of its subcontractors, employees, or authorized agents, is excluded from participation, or becomes otherwise ineligible to participate in any such program during the term of the Home Access Contract, Design Professional will notify Grantee in writing within three days after such event. Upon the occurrence of such event, whether or not such notice is given to Design Professional, Design Professional acknowledges that Grantee, in its sole discretion, reserves the right to immediately cease paying Design Professional without penalty.
8. **Minimum Requirements for Design Professional's Insurance Coverage.** Design Professional warrants and represents that as of the effective date of this Addendum, it carries all of the insurance coverage specified in this section below.
 - a. Workers' Compensation. Workers' Compensation Insurance as required by Colorado statute, and Employer's Liability Insurance covering all of Design Professional and any of its subcontractors, employees, or authorized agents acting within the course and scope of their employment.
 - b. General Liability. Commercial General Liability Insurance written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent contractors, products and completed operations, blanket contractual liability, personal injury, and advertising liability with minimum limits as follows: (i) \$1,000,000 each occurrence; (ii) \$1,000,000 general aggregate; (iii) \$1,000,000 products and completed operations aggregate; and (iv) \$50,000 any one fire.
 - c. Automobile Liability. Automobile Liability Insurance covering any auto (including owned, hired and non-owned autos) with a minimum limit of \$1,000,000 each accident combined single limit.
 - d. Malpractice/Professional Liability Insurance. Design Professional and any of its subcontractors, employees, or authorized agents shall maintain in full force and effect a Professional Liability Insurance Policy in the minimum amount of \$1,000,000 per occurrence and \$1,000,000 in the aggregate, written on an occurrence form that provides coverage for its work undertaken pursuant to the Home Access Contract. If a policy written on an occurrence form is not commercially available, the claims-made policy shall remain in effect for the duration of the Home Access Contract and for at least two years beyond the completion and acceptance of the work under the Home Access Contract, or, alternatively, a two year extended reporting period must be purchased. The Design Professional and any of its subcontractors, employees, or authorized agents shall be responsible for all damages, losses or expenses, including

reasonable attorney's fees, to the extent caused by such party's negligent performance of professional services under the Home Access Contract.

9. **Other Requirements for Design Professional's Insurance Coverage.** Certificates of Insurance and/or insurance policies required are subject to the following stipulations and additional requirements:
- a. Deductible. Any and all deductibles or self-insured retentions contained in any Insurance policy shall be assumed by and at the sole risk of the Design Professional and any of its subcontractors, employees, or authorized agents.
 - b. In Force. If any of the said policies shall fail at any time to meet the requirements in this Addendum as to form or substance, or if a company issuing any such policy shall be or at any time cease to be approved by the Division of Insurance of the State of Colorado, or be or cease to be in compliance with any stricter requirements of the CDBG-DR program, the Design Professional and any of its subcontractors, employees, or authorized agents shall promptly obtain a new policy.
 - c. Insurer. All requisite insurance shall be obtained from financially responsible insurance companies, authorized to do business in the State of Colorado and acceptable to Grantee.
 - d. Additional Insured. Boulder County and the State of Colorado shall be named as additional insureds on the Commercial General Liability and Automobile Liability Insurance policies (leases and construction Grants require additional insured coverage for completed operations on endorsements CG 2010 11/85, CG 2037, or equivalent).
 - e. Primacy of Coverage. Coverage required of the Design Professional and any of its subcontractors, employees, or authorized agents shall be primary over any insurance or self-insurance program carried by Grantee or the State.
 - f. Cancellation. The above insurance policies shall include provisions preventing cancellation or non-renewal without at least 45 days prior notice to Grantee. Grantee will forward such notice to the State in accordance with the terms of Grantee Contract.
 - g. Subrogation Waiver. All insurance policies in any way related to the Home Access Work and secured and maintained by the Design Professional and any of its subcontractors, employees, or authorized agents as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against Grantee or the State, its agencies, institutions, organizations, officers, agents, employees, and volunteers.
 - h. Certificates. Design Professional and any of its subcontractors, employees, or authorized agents shall provide certificates showing insurance coverage required hereunder to Beneficiary and Grantee prior to the effective date of this Addendum. Such certificates must be attached to this Addendum as Exhibit A. No later than 15 days prior to the expiration date of any such coverage, the Design Professional and any of its subcontractors, employees, or authorized agents shall deliver to Grantee certificates of insurance evidencing renewals thereof. In

addition, upon request by Grantee at any other time during the term of the Home Access Contract, the Design Professional and any of its subcontractors, employees, or authorized agents shall, within 10 days of such request, supply to Grantee evidence satisfactory to Grantee of compliance with the provisions of this Addendum.

10. Section 3 of the HUD Act of 1968.

- a. Training / Employment for Low and Moderate Income People and Businesses. The CDBG-DR funds used to fund the work on Beneficiary’s property in whole or in part require adherence to the requirements of Section 3 of the HUD Act of 1968 and 24 CFR Part 135. Therefore, to the greatest extent feasible, Design Professional hereby agrees to provide opportunities for training and employment that arise from this HUD-financed project, to give preference in hiring to persons whose income is equal to or less than 80% of Area Median Income (“AMI”), and to give preference in contracting to businesses owned in substantial part by persons, or that substantially employ persons, whose income is equal to or less than 80% of AMI in the Boulder County metropolitan statistical area.
 - b. Local Hiring. Design Professional hereby agrees to provide for the hiring of employees who reside in the vicinity or contract with small businesses that are owned and operated by persons residing in the vicinity of such projects, to the maximum extent feasible. This local hiring requirement does not replace the responsibilities of Grantee under Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and implementing regulations at 24 CFR part 135, except to the extent the obligations may be in direct conflict. For the purposes of this work, “vicinity” is defined as each neighborhood identified by the Grantee and approved by the State as being the areas of greatest need. “Small business” means a business that meets the criteria set forth in §3(a) of the Small Business Act.
 - c. Minimum Job Qualifications. Nothing in section shall be construed to require the employment of a person or contracting with a business that does not meet the qualifications for the job.
- 11. Minority and Women Business Enterprises.** To the greatest extent feasible, Design Professional will take affirmative steps to assure that minority business and women’s business enterprises have an equal opportunity to obtain or compete for subcontracts to be paid with CDBG-DR funds. See 24 CFR 570.506(g)(6).
- 12. Cooperation.** Design Professional acknowledges that this work is funded in whole or in part with federal funds. Design Professional agrees to cooperate with Beneficiary, Boulder County, the State of Colorado, and the U.S. Department of Housing & Urban Development, and their agents, successors, and assigns regarding compliance with all applicable local, state, and federal laws related to use of these public funds.
- 13. Payment Process.** To the extent the Home Access Work is funded in whole or in part by CDBG-DR funds, Design Professional acknowledges that it must submit invoices for completed work to both Beneficiary and to Grantee. Upon approval of the invoice by both Beneficiary and Grantee, Grantee will remit payment within 30 days to Design

Professional on Beneficiary's behalf, up to the maximum amount of CDBG-DR funds awarded to Beneficiary. Grantee reserves the right to require Design Professional to submit fully executed mechanics' lien waivers in a form acceptable to Grantee in its sole discretion. In Grantee's sole discretion and to the extent reasonable given the relationship of Design Professional's work to subsequent construction work by one or more builders, Grantee may withhold payment of Design Professional's final invoice until completion of a successful final inspection.

14. Inspections / Oversight.

- a. Design Professional acknowledges that, under the terms of Beneficiary's agreement with Grantee, the U.S. Department of Housing and Urban Development, the State of Colorado, Grantee, any inspector appointed by Grantee, and any other agent or representative of Grantee, have the right to enter the Property for the purpose of inspection of the Home Access Work to ascertain compliance with CDBG-DR program rules. Design Professional agrees to allow reasonable access to the Subject Property to facilitate such inspections.
- b. These same parties have the right to review and examine any drawings, contracts, books and records relating to the Home Access Work or this Agreement. When requested, Design Professional agrees to cooperate with Beneficiary to provide Grantee with copies of any of the foregoing that may be reasonably requested by Grantee, provided such inspections shall occur at reasonable times and shall be conducted so as not to unreasonably interfere with the work or business of Design Professional and Beneficiary. Any inspection of the Work shall be solely for the benefit of the person or persons conducting or contracting for such inspection; neither Beneficiary nor Design Professional nor any third person shall be entitled to obtain any benefit therefrom or to rely thereon or to claim any loss or damages as a result of, or in any way based on or made in connection with, any inspection or the failure to make any such inspection. This provision does not impose on Grantee any obligation or liability whatsoever, including without limitation, any obligation to inspect, to correct any defects discovered, or to notify Beneficiary or Design Professional or any other person with respect thereto.
- c. Home Access Work must be built to the approved Plans and/or Drawings, as applicable. When required by the applicable permitting process, Design Professional acknowledges that Grantee may in its discretion hire a professional engineer licensed in the State of Colorado to design and inspect work to ensure quality and conformance with all CDBG-DR program requirements. When an engineer is required, the engineer shall provide stamped documents stating work performed has been done satisfactorily or dictate corrections.

15. No Warranty by Grantee. Beneficiary and Design Professional acknowledge that Grantee makes no representations and assumes no duties or obligations as to Beneficiary, as to Design Professional, nor as to third persons concerning the quality of the construction of the Work or the absence therefrom of defects.

16. Representations and Warranties. All of the representations and warranties made by Design Professional in this Addendum are relied on by Beneficiary.

17. **Legal Authority to Sign.** Design Professional warrants that it possesses the legal authority to enter into this Addendum and that it has taken all actions required by its procedures, by-laws, and all other applicable laws to exercise that authority and to lawfully authorize its undersigned signatory to execute this Addendum and bind Design Professional to its terms. If requested by Grantee, Design Professional shall provide Grantee with proof of Design Professional's authority to enter into this Addendum within 15 days of receiving such request.

18. **Notices.** For purposes of the notices required to be provided under this Addendum, all such notices shall be in writing, and shall be either sent by Certified U.S. Mail - Return Receipt Requested, or hand-delivered to the following representatives of the parties at the following addresses:

a. For Beneficiary: _____

b. For Design Professional: _____

c. For Grantee: Boulder County Transportation Department
Attn: CDBG-DR Home Access Program
P.O. Box 471
Boulder, CO 80306

d. In the event a notice is mailed pursuant to the provisions of this paragraph, the time periods specified in this Addendum shall commence to run on the day after the postmarked date of mailing.

19. **Order of Precedence.** In the event of conflicts or inconsistencies between this Addendum and the Home Access Contract, this Addendum controls.

20. **Amendments.** This Addendum may be altered or amended only with written consent of Grantee.

21. **Assignment.** This Addendum shall not be assigned by Design Professional without prior written consent by Grantee. Upon consent and assignment, this Addendum shall bind successors and assigns.
22. **Prevention of Fraud.** Beneficiary and Design Professional acknowledge that any individual who fraudulently or willfully misstates any fact in connection with this Addendum may be subject to a fine or imprisoned for not more than five years or both, as provided under 18 U.S.C. § 1001 et seq. Beneficiary and Design Professional understand that Grantee will fully investigate all allegations of fraud and, where appropriate, refer cases to the Boulder County District Attorney's Office for prosecution. Beneficiary and Design Professional hereby agree to indemnify and hold harmless Grantee, its elected and appointed officials, and its employees, agents and representatives ("Indemnified Parties"), from any and all liability, damages, losses, costs or expenses, including but not limited to reasonable attorneys' fees, which may be made or brought or which may result against any of the Indemnified Parties as a result or on account of the negligent actions or omissions of Beneficiary and Design Professional, their agents or representatives, or other persons acting under their direction or control.
23. **Information and Reports.** Beneficiary and Design Professional agree to provide to authorized governmental representatives, including those of Boulder County, Boulder County Housing Authority, the State of Colorado, and the federal government, all information and reports related to this CDBG-DR award which they may require for any purpose authorized by law. Beneficiary and Design Professional will permit such authorized governmental representatives access to Beneficiary's and Design Professional's facilities, books, records, accounts, and any other relevant sources of information, including copies of all contracts with third parties executed to secure performance of work funded with CDBG-DR funds. Where any information required by any such authorized government representative is in the exclusive possession of a person other than Beneficiary or Design Professional, then Beneficiary or Design Professional, as applicable, shall so certify to Grantee and shall explain what efforts it has made to obtain the information.
24. **Breach.** Any waiver of a breach of this Addendum shall not be held to be a waiver of any other or subsequent breach of this Addendum. Any remedies afforded in this Addendum shall be taken and construed as cumulative, that is, in addition to every other remedy provided herein or by law.
25. **Severability.** If any provision of this Addendum or the Home Access Contract is found to be invalid, illegal, or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.
26. **Statutory Requirements.** Beneficiary and Design Professional acknowledge that Grantee's performance under this Addendum, specifically any obligation to remit payments for Home Access Work to Design Professional on Beneficiary's behalf, is subject to all statutory and other legal requirements that are or may become applicable to counties or political subdivisions of the State of Colorado. By way of example only, any financial obligations of Grantee payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. Grantee is prohibited by law from making financial commitments beyond the term of its

current fiscal year. Grantee has contracted with the State of Colorado for the funds necessary to operate the home access program addressed by this Addendum and the Home Access Contract and has reason to believe that sufficient funds will be available for the full term of the Home Access Contract. Where funds are not allocated for any fiscal period beyond the one in which this agreement is entered into, Grantee shall have the right to terminate any obligations it has by providing seven days written notice to Beneficiary and Design Professional and will be released from any and all obligations hereunder. If Grantee terminates its obligations for this reason, the parties hereto shall be released from all obligations hereunder as of the date of termination, and this Addendum shall cease to be of any further force and effect, with the exception of any remedies specified herein or otherwise available to the parties under the law.

27. **Governmental Immunity.** Notwithstanding any other provision herein, nothing in this Addendum shall be construed in any way to be a waiver of either Boulder County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.
28. **Execution by Counterparts.** This Addendum may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.
29. **Electronic Signatures.** The Parties approve the use of electronic signatures for execution of this Agreement. Only the following forms of electronic signatures shall be permitted to bind the Parties: (1) electronic or facsimile delivery of a fully executed copy of a signature page; (2) the image of the signature of an authorized signer inserted onto PDF format documents; or (3) electronic signature generated through the use of software such as DocuSign. All documents must be properly notarized, if applicable. All use of electronic signatures shall be governed by the Uniform Electronic Transactions Act, CRS §§ 24-71.3-101 et seq.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties affix their signatures. This Agreement is made effective as of the last date written below on these signature pages.

BENEFICIARY

Printed name: _____

Date: _____

DESIGN PROFESSIONAL

Printed name: _____
Date: _____

Exhibit A

Certificate of Insurance

(reflecting compliance with all requirements of this Addendum)

Attachment B. Conservation Measures to Avoid and Minimize Potential Effects on Threatened and Endangered Species

Conservation Measures to Avoid and Minimize Potential Effects on Threatened and Endangered Species

Proposed conservation measures to avoid and minimize potential effects to federally listed species and Preble's critical habitat from the covered actions include:

1. Projects shall be designed to avoid and/or minimize all permanent and temporary impacts to riparian and adjacent upland habitats to sustain the ability of a Preble's critical habit unit to support the recovery of the Preble's.
2. To the maximum extent practicable, Contractor will avoid or minimize disturbing, crushing, trampling, removing, cutting, or clearing live or dormant vegetation, such as willows, trees, shrubs, or grasses within riparian and adjacent upland habitats to protect forage and cover for the Preble's and avoid crushing the Preble's, the orchid and Colorado butterfly plant.
 - a. During preconstruction briefings, worksite managers will explain these conservation measures, the importance of protecting live or dormant vegetation, and the importance of remaining within the limits of work.
 - b. Contractor will restrict the disturbance of vegetation to the footprint of the worksite.
 - c. Contractor will install temporary limits of work fencing, signage, flagging, or other visual markers to delineate the worksite from habitats and to enforce no entry zones.
 - d. Contractor will minimize the use of heavy machinery and use smaller equipment whenever possible.
3. Contractor will locate, store, stage, operate, and refuel equipment within previously disturbed areas outside of riparian and adjacent upland habitats and away from streams to minimize disruptions to Preble's, Mexican spotted owls, and greenback cutthroat trout that may be present within or adjacent to a worksite.
 - a. Contractor will operate equipment from previously disturbed or modified roadbeds or shoulders above riparian habitats.
 - b. Contractor will limit the number and size of access routes and staging areas, with one entry and exit route leading into the worksite whenever possible.
 - c. Contractor will stockpile topsoil and debris outside of riparian areas and protect from stream flows.
4. Contractor will use best management practices to limit dust, soil compaction, erosion, and sedimentation, and to prevent the spread of invasive weeds; this will protect water quality for the greenback cutthroat trout and enable growth and pollination of the orchid and Colorado butterfly plant.
 - a. Contractor will temporarily line access routes with geotextiles, especially in wet, unstable soils.
 - b. Workers will clean equipment and clothing before entering new worksites to prevent the spread of invasive weeds.
5. During the Preble's active season (May 1 through November 1), crews will work only during daylight hours to avoid disrupting the Preble's nocturnal activities.
6. Where possible, work crews will replant areas disturbed by construction with native, weed-free seeds and plants to improve forage and cover for the Preble's and enhance growth and pollination of the orchid and Colorado butterfly plant.
7. Contractor will cease work and contact Boulder County Home Access Coordinators immediately if a Preble's is found alive, dead, injured, or hibernating within a worksite. Contractor will also contact the Service if the orchid, the Colorado butterfly plant, the Mexican spotted owl, the greenback cutthroat trout, or any other listed species are found within a worksite.

Attachment C. Boulder County's Minimum Guideline for Sampling and Testing

BOULDER COUNTY
TRANSPORTATION DEPARTMENT



Minimum Guideline for Sampling and Testing

April 1, 2013

**Boulder County Transportation Minimum Guideline for Sampling and Testing
Final Version April 1, 2013**

Pay Item	Type of Test	Sampling & Testing Frequency
203 Embankment	In-Place Density	1 per 2000 cu yds. Or a fraction thereof of embankment placed. (or as specified by Construction Inspector, Project Engineer or contract)
203 Embankment	Moisture Density Curve	1 per soil type.
206 STR. Backfill (Class 1)	Gradation	1 per 200 cu yds. (or as per contract)
206 STR. Backfill (Class 1)	Moisture Density Curve	1 per source. (or as per contract)
206 STR. Backfill (Class 1)	In Place Density	1 per 200 cu yds. (or as per contract)
206 STR. Backfill (Class 2)	Moisture Density Curve	1 per source. (or as per contact)
206 STR. Backfill (Class 2)	In Place Density	1 per 200 cu yds. or fraction thereof
207 Topsoil	Boulder County may elect to use the CDOT Field Materials Manual 2013. Schedule (Quality Assurance) for Minimum Materials Sampling, Testing and Inspection.	
304 Aggregate Base Course	Gradation	1 per 2000 tons or fraction thereof.
304 Aggregate Base Course	In-Place Density	1 per 2000 tons or fraction thereof or as specified by the Construction Inspector, Project Engineer or contract.
304 Aggregate Base Course	Moisture-Density Curve	1 per source.
306 Reconditioning	In Place Density	1 per 5000 sq. yds. or a fraction thereof.
306 Reconditioning	Moisture-Density Curve	1 per type.

**Boulder County Transportation Minimum Guideline for Sampling and Testing
Final Version April 1, 2013**

Pay Item	Type of Test	Sampling & Testing Frequency
403 HMA	Asphalt Content	1 per 1500 within the first 2 days of paving (or as specified by Project Engineer or Contract)
403 HMA	Binder	1 per mix design.
403 HMA	Gradation	1 per 1500 tons or a fraction thereof of mix produced (or as specified by Project Engineer or Contract)
403 HMA	In-Place Density	Top Lift 1 per 500 tons or a fraction thereof of mix placed. Bottom Lift 1 per 1000 (or as specified by Project Engineer or Contract)
403 HMA	Theoretical Max. SP Gravity (RICE)	1 per project location (or as specified by Construction Inspector, Project Engineer)
403 HMA	Air Voids	1 per mix design or as specified by Project Engineer, Construction Inspector (or as specified by contract)
403 HMA	Longitudinal Joint Density	1 per 5000 Linear FT. or fraction thereof.
601 Structural Concrete	Air Content, Slump, Unit Weight	1 per set (5) of cylinders per day. Or as specified by Project Engineer, Construction Inspector (or as specified Slump, Unit Weight by Contract).
601 Structural Concrete	Compressive Strength	1 set (5) per 200cu yds. or fraction thereof or as specified by Project Engineer, Construction Inspector (or as specified by Contract)
608 Sidewalk and Bikeways	Air Content, Slump, Unit Weight	1 per 1000 sq. yds. or fraction thereof. or as specified by Project Engineer, Construction Inspector (or as specified by Contract)

**Boulder County Transportation Minimum Guideline for Sampling and Testing
Final Version April 1, 2013**

Pay Item	Type of Test	Sampling & Testing Frequency
608 Sidewalk	Compressive Strength	1 set (5) of cylinders per 1000 sq. yd. or fraction thereof. and Bikeways as specified by Project Engineer, Construction Inspector (or as specified by Contract)
609 Curb and Gutter	Air Content, Slump, Unit Weight	1 per 2000 lin. ft. or fraction thereof.
609 Curb and Gutter	Compressive Strength	1 set (5) of cylinders per 2000 lin. ft. or fraction thereof.

This document will be used as a general guideline and may be modified for specific projects or site conditions or the contract document requirements are greater than minimum testing guidelines.

Attachment D. Minimum Insurance Requirements

Construction Firm Requirements		Engineering/Design Professional Requirements	
<i>Commercial General Liability (CGL)</i>	Written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent contractors, products and completed operations, blanket contractual liability, personal injury, and advertising liability Minimum limits: <input type="checkbox"/> \$1,000,000 each occurrence; <input type="checkbox"/> \$1,000,000 general aggregate; <input type="checkbox"/> \$1,000,000 products and completed operations aggregate; and <input type="checkbox"/> \$50,000 any one fire.	<i>Commercial General Liability (CGL)</i>	Written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent contractors, products and completed operations, blanket contractual liability, personal injury, and advertising liability Minimum limits: <input type="checkbox"/> \$1,000,000 each occurrence; <input type="checkbox"/> \$1,000,000 general aggregate; <input type="checkbox"/> \$1,000,000 products and completed operations aggregate; and <input type="checkbox"/> \$50,000 any one fire.
<i>Auto</i>	<input type="checkbox"/> any auto (including owned, hired and non-owned autos) <input type="checkbox"/> minimum of \$1,000,000 each accident combined single limit	<i>Auto</i>	<input type="checkbox"/> any auto (including owned, hired and non-owned autos) <input type="checkbox"/> minimum of \$1,000,000 each accident combined single limit
<i>Workmen's Comp</i>	Minimums of: <input type="checkbox"/> \$100,000 each accident; <input type="checkbox"/> \$100,000 disease each employee <input type="checkbox"/> \$500,000 policy limit	<i>Workmen's Comp</i>	Minimums of: <input type="checkbox"/> \$100,000 each accident; <input type="checkbox"/> \$100,000 disease each emp'ee <input type="checkbox"/> \$500,000 policy limit
<i>Professional Liability</i>	N/A	<i>Professional Liability</i>	Minimum of <input type="checkbox"/> \$1,000,000 per occurrence and <input type="checkbox"/> \$1,000,000 in the aggregate Written on an occurrence form that provides coverage for its work undertaken pursuant to the Housing Rehabilitation Contract. If a policy written on an occurrence form is not commercially available, the claims-made policy shall remain in effect for the duration of the Housing Rehabilitation Contract and for at least 2 years beyond the completion and acceptance of the work under the Housing Rehabilitation Contract, or, alternatively, a 2 year extended reporting period must be purchased.
<i>Builder's Risk</i> (New construction only- Strongly recommended)	Property insurance written on a builder's risk "all-risk" or equivalent policy form In the amount of the initial construction/rehabilitation costs, plus value of subsequent modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Maintained, unless otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the property owner has an insurable interest in the property. All associated deductibles shall be the responsibility of Builder; may have a deductible clause but not to exceed \$10,000. Shall include partial use by Builder and/or property owner. Amount shall be increased to include the cost of any additional work to be done on the project, or materials or equipment to be incorporated in the project, under other	<i>Builder's Risk</i>	N/A

	independent contracts let or to be let.		
<i>Pollution Liability (strongly recommended)</i>	<p>If Builder is providing directly or indirectly work with known pollution/environmental hazards,</p> <p>Must include contractual liability coverage.</p> <p>Minimum of \$1,000,000 with maximum deductible of \$25,000 to be paid by the Builder.</p>	<i>Pollution Liability</i>	N/A
<i>Umbrella</i>	N/A	<i>Umbrella</i>	N/A

Attachment E. Bid Tabulation Sheet

Bid Tabulation Form

Engineering/ Modeling Services for CDBG-DR Home Access Program

Client Address:

Task 1: Background & Site Studies		
A - C	General Preparation	
D	Topographic Survey	
E	Geotechnical Testing, etc.	
Task 1 Subtotal		\$ -

Task 2: Floodplain Modeling		
A - E	Hydraulic Analyses & Design	
F	CLOMR/ LOMR Alternative	
F	CLOMR/ LOMR Permit Fees	
Task 2 Subtotal (A-E ONLY)		\$ -

Task 3: Applications, Forms & Permitting		
A - D	Applications, Forms, Permitting	
Task 3 Subtotal		

Task 4: Design & Construction Documents		
A	Preliminary Design	
B	Final Design	
Task 4 Subtotal		

Task 5: Construction Management		
A - F	Construction Mgmt., general	
G	Concrete Testing	
H	Written Confirmation Letter	
I	As-Built Documents	
Task 5 Subtotal		

Bid Total:

Company Name:

Name of person submitting Bid:

Attachment F. Signature Page

Signature Page

Client Address: _____

Failure to complete, sign and return this signature page with your proposal may be cause for rejection.

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name and Title of Person Authorized to Contract with Boulder County	
Name and Title of Person Submitting Bid	
Email Address for Person Submitting Bid	
Company Address	
Company Phone Number	
Company Website	
Company Fax Number	

By signing below I certify that:

I am authorized to bid on my company's behalf.

I am not currently an employee of Boulder County.

None of my employees or agents is currently an employee of Boulder County.

I am not related to any Boulder County employee or Elected Official.

I am not a Public Employees' Retirement Association (PERA) retiree.

**Signature of Person Authorized to Bid on
Company's Behalf**

Date

Note: If you cannot certify the above statements, please explain in a statement of explanation.

Attachment G. Contract Addendum between Client and Contractor (Builder)

**BOULDER COUNTY ADDENDUM TO
CONTRACT BETWEEN CDBG-DR BENEFICIARY AND BUILDER
FOR
HOME ACCESS PROJECTS**

This Addendum to Contract between Boulder County CDBG-DR Beneficiary

_____ (“Beneficiary”) and
_____ (“Builder”) is

entered into as of the last date written below on the signature pages.

Recitals

A. Beneficiary applied for home access funding from the Community Development Block Grant – Disaster Recovery (“CDBG-DR”) program, which funds were initially awarded by the State of Colorado to Boulder County. In this Addendum, Boulder County will be referred to as “Grantee.”

B. Based on Grantee’s findings that Beneficiary is eligible for CDBG-DR assistance made available as a result of the September 2013 flooding and related disasters (the “Disaster”), that such assistance is reasonable and necessary, and that such assistance will not exceed the Beneficiary’s unmet need as determined by the State of Colorado’s procedure to prevent duplication of benefits, Grantee approved Beneficiary’s application, contingent on Beneficiary complying with certain conditions including, without limitation, the requirement that any contracts between Beneficiary and third-party vendors (such as Builder) to perform work paid for in whole or in part with CDBG-DR funds be made expressly subject to the terms of this addendum (the “Addendum”).

C. Contemporaneously with execution of this Addendum, Beneficiary and Builder are entering into a contract for certain work to restore home access (the “Home Access Work”) paid for in whole or in part with CDBG-DR funds (the “Home Access Contract”).

D. Unless otherwise indicated, all capitalized terms in this Addendum are defined in the CDBG-DR Housing Grant Agreement between the State of Colorado, Department of Local Affairs and Boulder County, Contract Encumbrance # H5CDR14085 (“Grantee Contract”), as amended, a copy of which is available upon request to Grantee.

NOW THEREFORE, for and in consideration of the mutual promises contained herein, Beneficiary and Builder agree as follows:

1. **Plans & Specifications.** When required by the applicable permitting process, construction plans and specifications (the “Plans”) shall be drawn up by a qualified engineer or architect licensed in the State of Colorado or pre-engineered in accordance with Colorado law. When required by the applicable permitting process, all Plans must be stamped by a licensed professional civil engineer in the State of Colorado. When it is not required by the applicable permitting process, work that is not structural in nature and that would not normally require an engineer or architect for permitting, or would require no permit, is exempt from these requirements. Instead, scaled drawings would be made

by staff or other capable individuals identified by Grantee at discretion of Grantee on nonstructural work (“Drawings”).

2. **Construction Standards.** In accordance with HUD guidance on use of CDBG-DR funds, see 79 Fed. Reg. 31972, to the greatest extent feasible all home access projects should apply appropriate construction standards to mitigate flood risk, which may include: (a) raising utilities or other mechanical devices above expected flood level; (b) wet flood proofing in a basement or other areas below the Advisory Base Flood Elevation/best available data plus one foot; (c) using water resistant paints or other materials; or (d) dry flood proofing non-residential structures by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls to keep water out.
3. **Mandatory Mitigation Requirements.** If a new construction, reconstruction, or substantial improvement project or activity is located in a floodplain, the lowest floor must be designed using the base flood elevation, determined in accordance with the best available data, plus one foot as the baseline standard for elevation. The relevant data source and best available data under Executive Order 11988 is the latest issued FEMA data or guidance, which includes advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps. See also 24 CFR 55.2(b)(8). If higher elevations are required by locally adopted code or standards, those higher standards would apply.
4. **Permits Required.** All work funded by CDBG-DR must be appropriately permitted by local, state, and federal agencies, including obtaining floodplain development permits where applicable.
5. **Licenses, Permits, etc.** Builder represents and warrants that as of the effective date of this Addendum it has, and that at all times during the term hereof it shall have, at its sole expense, all licenses, certifications, approvals, insurance, permits, and other authorization required by law to perform its obligations hereunder. Builder warrants that it shall maintain all necessary licenses, certifications, approvals, insurance, permits, and other authorizations required to properly perform the Home Access Work, without reimbursement by Grantee or other adjustment in contract amounts. Additionally, all employees and agents of Builder performing Home Access Work shall hold all required licenses or certifications, if any, to perform their responsibilities. Builder, if a foreign corporation or other foreign entity transacting business in the State of Colorado, further warrants that it currently has obtained and shall maintain any applicable certificate of authority to transact business in the State of Colorado and has designated a registered agent in Colorado to accept service of process. Any revocation, withdrawal or non-renewal of licenses, certifications, approvals, insurance, permits or any such similar requirements necessary for Builder to properly perform the Home Access Work shall be deemed to be a material breach by Builder and constitute grounds for termination of the Home Access Contract.
6. **Standard and Manner of Performance.** Builder shall perform its obligations hereunder in accordance with the highest standards of care, skill and diligence in the industry, trades or profession and in the sequence and manner set forth in the Home Access Contract and

this Addendum. Beneficiary and Grantee shall be the sole judge of the quality of performance.

7. **Exclusion, Debarment, and/or Suspension.** Builder represents and warrants that neither Builder nor any of its subcontractors, employees, or authorized agents are presently excluded from participation, debarred, suspended, proposed for debarment, declared ineligible, voluntarily excluded, or otherwise ineligible to participate in a federal payment program by any federal or State of Colorado department or agency. If Builder, or any of its subcontractors, employees, or authorized agents, is excluded from participation, or becomes otherwise ineligible to participate in any such program during the term of the Home Access Contract, Builder will notify Grantee in writing within three days after such event.
8. **Minimum Requirements for Builder's Insurance Coverage.**
 - a. Builder warrants and represents that as of the effective date of this Addendum, it carries all of the insurance coverage specified in this section below.
 - i. Workers' Compensation. Workers' Compensation Insurance as required by Colorado statute, and Employer's Liability Insurance covering all of Builder and any of its subcontractors, employees, or authorized agents acting within the course and scope of their employment.
 - ii. General Liability. Commercial General Liability Insurance written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent contractors, products and completed operations, blanket contractual liability, personal injury, and advertising liability with minimum limits as follows: (i) \$1,000,000 each occurrence; (ii) \$1,000,000 general aggregate; (iii) \$1,000,000 products and completed operations aggregate; and (iv) \$50,000 any one fire.
 - iii. Automobile Liability. Automobile Liability Insurance covering any auto (including owned, hired and non-owned autos) with a minimum limit of \$1,000,000 each accident combined single limit.
 - iv. Malpractice/Professional Liability Insurance. Only to the extent Builder will undertake design work, Builder and any of its subcontractors, employees, or authorized agents shall maintain in full force and effect a Professional Liability Insurance Policy in the minimum amount of \$1,000,000 per occurrence and \$1,000,000 in the aggregate, written on an occurrence form that provides coverage for its work undertaken pursuant to the Home Access Contract. If a policy written on an occurrence form is not commercially available, the claims-made policy shall remain in effect for the duration of the Home Access Contract and for at least two years beyond the completion and acceptance of the work under the Home Access Contract, or, alternatively, a two year extended reporting period must be purchased. The Builder and any of its subcontractors, employees, or authorized agents shall be responsible for all claims, damages, losses or expenses, including attorney's fees, arising out of or resulting from such

party's performance of professional services under the Home Access Contract.

- b. It is strongly recommended that Beneficiary consider obtaining or requiring Builder to obtain the following types of insurance, if applicable:
 - i. Builder's Risk Insurance. Builder shall purchase and maintain property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial construction/rehabilitation costs, plus value of subsequent modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made or until no person or entity other than the property owner has an insurable interest in the property.
 - A. The insurance shall include interests of the property owner, Builder, and Grantee in the project as named insureds.
 - B. All associated deductibles shall be the responsibility of Builder. Such policy may have a deductible clause but not to exceed \$10,000.
 - C. Property insurance shall be on an "all risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Builder's services and expenses required as a result of such insured loss.
 - D. Builders Risk coverage shall include partial use by Builder and/or property owner.
 - E. The amount of such insurance shall be increased to include the cost of any additional work to be done on the project, or materials or equipment to be incorporated in the project, under other independent contracts let or to be let. In such event, Builder shall be reimbursed for this cost as his or her share of the insurance in the same ratio as the ratio of the insurance represented by such independent contracts let or to be let to the total insurance carried.
 - ii. Pollution Liability Insurance. If Builder is providing directly or indirectly work with pollution/environmental hazards, it shall provide or cause those conducting the work to provide Pollution Liability Insurance coverage. Pollution Liability policy must include contractual liability coverage. The

policy limits shall be in the amount of \$1,000,000 with maximum deductible of \$25,000 to be paid by the Builder.

9. **Other Requirements for Builder's Insurance Coverage.** Certificates of Insurance and/or insurance policies required are subject to the following stipulations and additional requirements:
- a. Deductible. Any and all deductibles or self-insured retentions contained in any Insurance policy shall be assumed by and at the sole risk of the Builder and any of its subcontractors, employees, or authorized agents.
 - b. In Force. If any of the said policies shall fail at any time to meet the requirements in this Addendum as to form or substance, or if a company issuing any such policy shall be or at any time cease to be approved by the Division of Insurance of the State of Colorado, or be or cease to be in compliance with any stricter requirements of the CDBG-DR program, the Builder and any of its subcontractors, employees, or authorized agents shall promptly obtain a new policy.
 - c. Insurer. All requisite insurance shall be obtained from financially responsible insurance companies, authorized to do business in the State of Colorado and acceptable to Grantee.
 - d. Additional Insured. Boulder County and the State of Colorado shall be named as additional insureds on the Commercial General Liability and Automobile Liability Insurance policies (leases and construction Grants require additional insured coverage for completed operations on endorsements CG 2010 11/85, CG 2037, or equivalent).
 - e. Primacy of Coverage. Coverage required of the Builder and any of its subcontractors, employees, or authorized agents shall be primary over any insurance or self-insurance program carried by Grantee or the State.
 - f. Cancellation. The above insurance policies shall include provisions preventing cancellation or non-renewal without at least 45 days prior notice to Grantee. Grantee will forward such notice to the State in accordance with the terms of Grantee Contract.
 - g. Subrogation Waiver. All insurance policies in any way related to the Home Access Work and secured and maintained by the Builder and any of its subcontractors, employees, or authorized agents as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against Grantee or the State, its agencies, institutions, organizations, officers, agents, employees, and volunteers.
 - h. Certificates. Builder and any of its subcontractors, employees, or authorized agents shall provide certificates showing insurance coverage required hereunder to Beneficiary and Grantee prior to the effective date of this Addendum. Such certificates must be attached to this Addendum as Exhibit A. No later than 15 days prior to the expiration date of any such coverage, the Builder and any of its subcontractors, employees, or authorized agents shall deliver to Grantee certificates of insurance evidencing renewals thereof. In addition, upon request

by Grantee at any other time during the term of the Home Access Contract, the Builder and any of its subcontractors, employees, or authorized agents shall, within 10 days of such request, supply to Grantee evidence satisfactory to Grantee of compliance with the provisions of this Addendum.

10. Bonding. Unless waived by Boulder County for good cause shown, for all projects with costs of greater than \$50,000, Builder shall secure the following bonds from companies authorized to do business in Colorado and holding certificates of authority as acceptable sureties pursuant to 31 C.F.R. Part 223.

- a. Bid Bond. A bid guarantee from each bidder of Work equivalent to five percent of the bid price. The “bid guarantee” shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder shall, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.
- b. Performance Bond. A performance bond on the part of the Builder for 100 percent of the awarded contract price. A “performance bond” is one executed in connection with a contract to secure fulfillment of all the Builder’s obligations under such contract.
- c. Payment Bond. A payment bond on the part of the Builder for 100 percent of the awarded contract price. A “payment bond” is one executed in connection with a contract to assure payment as required by statute of all persons supplying labor and material in the execution of the work provided for in the contract.

11. Section 3 of the HUD Act of 1968.

- a. Training / Employment for Low and Moderate Income People and Businesses. The CDBG-DR funds used to fund the work on Beneficiary’s property in whole or in part require adherence to the requirements of Section 3 of the HUD Act of 1968 and 24 CFR Part 135. Therefore, to the greatest extent feasible, Builder hereby agrees to provide opportunities for training and employment that arise from this HUD-financed project, to give preference in hiring to persons whose income is equal to or less than 80% of Area Median Income (“AMI”), and to give preference in contracting to businesses owned in substantial part by persons, or that substantially employ persons, whose income is equal to or less than 80% of AMI in the Boulder County metropolitan statistical area.
- b. Local Hiring. Builder hereby agrees to provide for the hiring of employees who reside in the vicinity or contract with small businesses that are owned and operated by persons residing in the vicinity of such projects, to the maximum extent feasible. This local hiring requirement does not replace the responsibilities of Grantee under Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and implementing regulations at 24 CFR part 135, except to the extent the obligations may be in direct conflict. For the purposes of this work, “vicinity” is defined as each neighborhood identified by the Grantee and approved by the State as being the areas of greatest need. “Small business” means a business that meets the criteria set forth in §3(a) of the Small Business Act.

- c. Minimum Job Qualifications. Nothing in section shall be construed to require the employment of a person or contracting with a business that does not meet the qualifications for the job.
12. **Minority and Women Business Enterprises.** To the greatest extent feasible, Builder will take affirmative steps to assure that minority business and women’s business enterprises have an equal opportunity to obtain or compete for subcontracts to be paid with CDBG-DR funds. See 24 CFR 570.506(g)(6).
 13. **Cooperation.** Builder acknowledges that this work is funded in whole or in part with federal funds. Builder agrees to cooperate with Beneficiary, Boulder County, Boulder County Housing Authority, the State of Colorado, and the U.S. Department of Housing & Urban Development, and their agents, successors, and assigns regarding compliance with all applicable local, state, and federal laws related to use of these public funds.
 14. **Payment Process.** To the extent the Home Access Work is funded in whole or in part by CDBG-DR funds, Builder acknowledges that it must submit invoices for completed work to both Beneficiary and to Grantee. Upon approval of the invoice by both Beneficiary and Grantee, Grantee will remit payment within 30 days to Builder on Beneficiary’s behalf, up to the maximum amount of CDBG-DR funds awarded to Beneficiary. Grantee reserves the right to require Builder to submit fully executed mechanics’ lien waivers in a form acceptable to Grantee in its sole discretion. Payment of the final invoice is contingent on completion of a successful final inspection.
 15. **Inspections / Oversight.**
 - a. Builder acknowledges that, under the terms of Beneficiary’s agreement with Grantee, the U.S. Department of Housing and Urban Development, the State of Colorado, Grantee, any inspector appointed by Grantee, and any other agent or representative of Grantee, have the right to enter the Property for the purpose of inspection of the Home Access Work to ascertain compliance with CDBG-DR program rules. Builder agrees to allow reasonable access to the Subject Property to facilitate such inspections.
 - b. These same parties have the right to review and examine any drawings, contracts, books and records relating to the Home Access Work or this Agreement. When requested, Builder agrees to cooperate with Beneficiary to provide Grantee with copies of any of the foregoing that may be reasonably requested by Grantee, provided such inspections shall occur at reasonable times and shall be conducted so as not to unreasonably interfere with the work or business of Builder and Beneficiary. Any inspection of the Work shall be solely for the benefit of the person or persons conducting or contracting for such inspection; neither Beneficiary nor Builder nor any third person shall be entitled to obtain any benefit therefrom or to rely thereon or to claim any loss or damages as a result of, or in any way based on or made in connection with, any inspection or the failure to make any such inspection. This provision does not impose on Grantee any obligation or liability whatsoever, including without limitation, any obligation to inspect, to correct any defects discovered, or to notify Beneficiary or Builder or any other person with respect thereto.

- c. Home Access Work must be built to the approved Plans and/or Drawings, as applicable. When required by the applicable permitting process, Builder acknowledges that Grantee may in its discretion hire a professional engineer licensed in the State of Colorado to design and inspect work to ensure quality and conformance with all CDBG-DR program requirements. When an engineer is required, the engineer shall provide stamped documents stating work performed has been done satisfactorily or dictate corrections.

16. **No Warranty by Grantee.** Beneficiary and Builder acknowledge that Grantee makes no representations and assumes no duties or obligations as to Beneficiary, as to Builder, nor as to third persons concerning the quality of the construction of the Work or the absence therefrom of defects.

17. **Representations and Warranties.** All of the representations and warranties made by Builder in this Addendum are relied on by Beneficiary.

18. **Legal Authority to Sign.** Builder warrants that it possesses the legal authority to enter into this Addendum and that it has taken all actions required by its procedures, by-laws, and all other applicable laws to exercise that authority and to lawfully authorize its undersigned signatory to execute this Addendum and bind Builder to its terms. If requested by Grantee, Builder shall provide Grantee with proof of Builder’s authority to enter into this Addendum within 15 days of receiving such request.

19. **Notices.** For purposes of the notices required to be provided under this Addendum, all such notices shall be in writing, and shall be either sent by Certified U.S. Mail - Return Receipt Requested, or hand-delivered to the following representatives of the parties at the following addresses:

a. For Beneficiary: _____

b. For Builder: _____

c. For Grantee: Boulder County
Attn: CDBG-DR Home Access Program
P.O. Box 471
Boulder, CO 80306

- d. In the event a notice is mailed pursuant to the provisions of this paragraph, the time periods specified in this Addendum shall commence to run on the day after the postmarked date of mailing.
20. **Order of Precedence.** In the event of conflicts or inconsistencies between this Addendum and the Home Access Contract, this Addendum controls.
21. **Amendments.** This Addendum may be altered or amended only with written consent of Grantee.
22. **Assignment.** This Addendum shall not be assigned by Builder without prior written consent by Grantee. Upon consent and assignment, this Addendum shall bind successors and assigns.
23. **Prevention of Fraud.** Beneficiary and Builder acknowledge that any individual who fraudulently or willfully misstates any fact in connection with this Addendum may be subject to a fine or imprisoned for not more than five years or both, as provided under 18 U.S.C. § 1001 et seq. Beneficiary and Builder understand that Grantee will fully investigate all allegations of fraud and, where appropriate, refer cases to the Boulder County District Attorney's Office for prosecution. Beneficiary and Builder hereby agree to indemnify and hold harmless Grantee, its elected and appointed officials, and its employees, agents and representatives ("Indemnified Parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including but not limited to attorneys' fees, which may be made or brought or which may result against any of the Indemnified Parties as a result or on account of the actions or omissions of Beneficiary and Builder, their agents or representatives, or other persons acting under their direction or control.
24. **Information and Reports.** Beneficiary and Builder agree to provide to authorized governmental representatives, including those of Boulder Count, the State of Colorado, and the federal government, all information and reports related to this CDBG-DR award which they may require for any purpose authorized by law. Beneficiary and Builder will permit such authorized governmental representatives access to Beneficiary's and Builder's facilities, books, records, accounts, and any other relevant sources of information, including copies of all contracts with third parties executed to secure performance of work funded with CDBG-DR funds. Where any information required by any such authorized government representative is in the exclusive possession of a person other than Beneficiary or Builder, then Beneficiary or Builder, as applicable, shall so certify to Grantee and shall explain what efforts it has made to obtain the information.
25. **Breach.** Any waiver of a breach of this Addendum shall not be held to be a waiver of any other or subsequent breach of this Addendum. Any remedies afforded in this Addendum shall be taken and construed as cumulative, that is, in addition to every other remedy provided herein or by law.
26. **Severability.** If any provision of this Addendum or the Home Access Contract is found to be invalid, illegal, or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

27. **Statutory Requirements.** Beneficiary and Builder acknowledge that Grantee's performance under this Addendum, specifically any obligation to remit payments for Home Access Work to Builder on Beneficiary's behalf, is subject to all statutory and other legal requirements that are or may become applicable to counties, housing authorities, or political subdivisions of the State of Colorado. By way of example only, any financial obligations of Grantee payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available. Grantee is prohibited by law from making financial commitments beyond the term of its current fiscal year. Grantee has contracted with the State of Colorado for the funds necessary to operate the home access program addressed by this Addendum and the Home Access Contract and has reason to believe that sufficient funds will be available for the full term of the Home Access Contract. Where funds are not allocated for any fiscal period beyond the one in which this agreement is entered into, Grantee shall have the right to terminate any obligations it has by providing seven days written notice to Beneficiary and Builder and will be released from any and all obligations hereunder. If Grantee terminates its obligations for this reason, the parties hereto shall be released from all obligations hereunder as of the date of termination, and this Addendum shall cease to be of any further force and effect, with the exception of any remedies specified herein or otherwise available to the parties under the law.
28. **Governmental Immunity.** Notwithstanding any other provision herein, nothing in this Addendum shall be construed in any way to be a waiver of Boulder County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.
29. **Execution by Counterparts.** This Addendum may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.
30. **Electronic Signatures.** The Parties approve the use of electronic signatures for execution of this Agreement. Only the following forms of electronic signatures shall be permitted to bind the Parties: (1) electronic or facsimile delivery of a fully executed copy of a signature page; (2) the image of the signature of an authorized signer inserted onto PDF format documents; or (3) electronic signature generated through the use of software such as DocuSign. All documents must be properly notarized, if applicable. All use of electronic signatures shall be governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24-71.3-101 et seq.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties affix their signatures. This Agreement is made effective as of the last date written below on these signature pages.

BENEFICIARY

Printed name: _____

Date: _____

BUILDER

Printed name: _____

Date: _____

Exhibit A
Certificate of Insurance

Attachment H. Section 3 Information

Community Development Block Grant-Disaster Recovery - Section 3 Package for Contractors

What is Section 3?

Your contract is being funded by Federal Community Development Block Grant Program (CDBG-DR) funds that Boulder County receives through the U.S. Department of Housing and Urban Development (HUD). These funds are subject to Section 3 of the Housing and Urban Development Act of 1968, which aims to foster local economic development, neighborhood economic improvement, and individual self-sufficiency. The provision requires that recipients of HUD funds, to the greatest extent feasible, provide job training, employment, and contracting opportunities for low- or moderate-income residents in connection with projects and activities in their neighborhoods. The enabling regulations for Section 3 can be found in 24 CFR Part 135.

Section 3 applies to CDBG-DR-funded contracts and subcontracts in excess of \$100,000 that are for:

- 1) housing construction and/or rehabilitation (including reduction and abatement of lead-based paint hazards);
- 2) construction-related job training;
- 3) public construction projects; or
- 4) professional and/or clerical services associated with CDBG-DR-funded construction and rehabilitation, such as architectural, engineering, administrative, and payroll services, etc.

Your Basic Responsibilities as a Section 3 Contractor

As a recipient of a CDBG-DR-funded contract for work in excess of \$100,000, you must:

1. Document the number of new employment opportunities and the number of construction and public works training positions generated by the CDBG-DR-funded project and whether those positions are filled by Section 3 residents.

Who are Section 3 residents?

In Boulder County, Section 3 residents are public housing residents or persons who have a household income that falls below HUD's income limits. Low- or moderate-income is defined as 80% of the area median income (AMI) or below. HUD's income limits are updated annually every December. Detailed information regarding income limits can be found on HUD's website at: www.huduser.org/portal/datasets/il.html

For Boulder County, the income limits that apply for FY2013, FY2014, and FY2015 are listed below. Please direct any questions about these limits to the CDBG-DR Unit at Boulder County Housing Human Services.

Household Size	FY2013		FY2014		FY2015	
	Extremely Low Income	Low Income	Extremely Low Income	Low Income	Extremely Low Income	Low Income
1	\$19,250.00	\$45,100.00	\$20,200.00	\$44,750.00	\$20,900.00	\$46,100.00
2	\$2,200.00	\$51,550.00	\$23,100.00	\$51,150.00	\$23,850.00	\$52,650.00
3	\$24,750.00	\$58,000.00	\$26,000.00	\$57,550.00	\$26,850.00	\$59,250.00
4	\$27,500.00	\$64,400.00	\$28,850.00	\$63,900.00	\$29,800.00	\$65,800.00
5	\$29,700.00	\$69,600.00	\$31,200.00	\$69,050.00	\$32,200.00	\$71,100.00
6	\$31,900.00	\$74,750.00	\$33,500.00	\$74,150.00	\$34,600.00	\$76,350.00
7	\$34,100.00	\$79,900.00	\$36,030.00	\$79,250.00	\$3,700.00	\$81,600.00
8	\$36,300.00	\$85,050.00	\$40,090.00	\$84,350.00	\$40,890.00	\$86,900.00

To document the income of your employees, you should utilize the "**Employee Self-Affirmation Form**" found later in this package. It is not mandatory that employees complete these forms. However, you should explain to your staff the importance of the form and that this information helps the County and your company document compliance with federal regulations.

Community Development Block Grant-Disaster Recovery - Section 3 Package for Contractors

2. Document the number of all Section 3 and non-Section 3 employees already on staff.

What is a Section 3 employee?

A Section 3 employee is either:

- An employee who is currently a Section 3 resident; or
- An employee who was hired within the past three years, was a Section 3 resident upon hire, but whose household income/housing status no longer qualifies him/her as a Section 3 resident. Employers may claim credit for these positions for three years after this individual's date of hire.

3. If you have a collective bargaining agreement with any labor organization or other group of workers, send them a notice advising them of your Section 3 requirements. The notice shall set forth the minimum number and job titles subject to hire, availability of apprenticeship and training positions, and the qualifications for each; the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin. You must also post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice.
4. Provide adequate notification to Section 3 residents about possible employment and training opportunities that result from the CDBG-DR-funded project. Methods of notifying residents include utilizing local media outlets, prominently displaying signs at the project sites, and/or notifying local community organizations.
5. Submit annual reports that summarize the number of Section 3 new hires, employees, and trainees for each year that your contract is open. A completed "Summary Report Form for Contractors and Subcontractors" (attached) should be returned to the County agency administering your contract in a timely manner and must cover the reporting period during which the project was started: **FY2013 (Oct 1, 2012-Sept 30, 2013), FY2014 (Oct 1, 2013-Sept 30, 2014), FY2015 (Oct 1, 2014-Sept 30, 2015).**
6. Maintain the Section 3 employment documentation in your files for a minimum of five years.

Further Responsibilities

Any subcontract in excess of \$100,000 that you award as part of this project is also subject to the Section 3 requirements. Accordingly, you must also:

1. Report to the agency administering your contract the number, dollar value, and types of subcontracts awarded.
2. Report whether each subcontractor is a Section 3 Business Concern.

What is a Section 3 Business Concern?

A Section 3 Business Concern is a business that:

- Is 51% or more owned by Section 3 residents;
- Employs Section 3 residents for at least 30 percent of its full-time, permanent staff; or
- Provides evidence of a commitment to subcontract to Section 3 business concerns, 25% or more of the dollar amount of the awarded contract.

Community Development Block Grant-Disaster Recovery - Section 3 Package for Contractors

3. *To the greatest extent feasible*, pursue contracting opportunities with Section 3 business concerns, in the following order of priority:
- I. business concerns that are 51% or more owned by residents of the housing development at which the work is performed, or whose full-time, permanent workforce includes 30% of these persons as employees; or
 - II. business concerns that are 51% or more owned by residents of Boulder County's public housing development(s) other than the housing development where the work is to be performed; or whose full-time permanent workforce includes 30% of these persons as employees.

Your compliance with these requirements is essential to the County meeting its federally-mandated Section 3 goals, which are, on a calendar year basis:

- **30% of all new hires on applicable projects will be Section 3 residents; and**
- **10% of the total dollar amount of all contracts' building trades work will be with Section 3 Business Concerns; and**
- **3% of the total dollar amount of all other applicable contracts per calendar year will be with Section 3 Business Concerns.**

Your Section 3 information will be aggregated and reported to HUD on a countywide basis. HUD reviews the County's annual reports, investigates complaints, and reserves the right to monitor the performance of the County's contractors. In the event of a monitoring, HUD will examine employment and contract records for evidence of actions taken to train and employ Section 3 residents and to award contracts to Section 3 businesses.

Specifically, HUD will review:

- Whether all contracts awarded by the HUD grantee contain the required Section 3 clause in all applicable contracts (exact language can be found in the "*Section 3 Definitions*" section);
- The number of Section 3 training opportunities coordinated by the HUD grantee;
- Whether 30% of all new hires by contractors were "Section 3 residents"; and
- Whether at least 10% of the total dollar amount of all contracts' building trades work and three percent (3%) of the total dollar amount of all other applicable contracts were awarded consistent with the requirements of being a "Section 3 Business."
- **New Requirement:** If an agency does not meet the three minimum numerical goals for the reporting period, an explanation regarding best efforts is required.

Section 3 Complaint Policy

If you have a complaint about the County's Section 3 process, you can direct it to the agency overseeing your contract. However, complaints may also be directed to HUD's Colorado Office:

U.S. Dept. of Housing and Urban Development
1670 Broadway St • Denver, CO 80202-4801
(800)-225-5342 • TTY (800) 877-8339

A written complaint should contain the name and address of the person filing the complaint; name and address of subject of complaint (HUD recipient, contractor or subcontractor); a description of acts or omissions in alleged violation of Section 3; and a description of the corrective action sought. Complaints must be filed no later than 180 days from the date of the action or omission upon which the complaint is based.

The County will provide a timely response to every citizen complaint. The response will be provided within 15 working days of the receipt of the complaint, if practicable.

Community Development Block Grant-Disaster Recovery - Section 3 Package for Contractors

Appendix - Section 3 Definitions

Business Concern: a business entity formed in accordance with State law, and which is licensed under State, County or municipal law to engage in the type of business activity for which it was formed.

Contractor: any entity which contracts to perform work generated by the expenditure of Section 3 covered assistance, or for work in connection with a Section 3 covered project.

Employment Opportunities Generated by Section 3 Covered Assistance: employment opportunities generated by the expenditure of Section 3 covered assistance (i.e., operating assistance, development assistance and modernization assistance, (as described in Section 135.3 (a) (1)). With respect to Section 3 covered housing and community development assistance, this term means all employment opportunities arising in connection with Section 3 covered projects (as described in Section 135.3(a)(2)), including management and administrative jobs. Management and administrative jobs include architectural, engineering or related professional services required to prepare plans, drawings, specifications, or work write-ups; and jobs directly related to administrative support of these activities, e.g., construction manager, relocation specialist, payroll clerk, etc.

Low- or moderate-income person: a member of a household whose total annual income does not exceed 80% of the median income for the area. Single persons are considered a household of one.

New Hires: full-time employees for permanent, temporary or seasonal employment opportunities.

Section 3: Section 3 of the Housing and Urban Development Act of 1968, as amended (12 U.S.C. 1701u).

Section 3 Business Concern: a business concern

- 1) That is 51 percent or more owned by Section 3 residents; or
- 2) Whose permanent, full-time employees include persons, at least 30 percent of whom are currently Section 3 residents, or within three years of the date of first employment with the business concern were Section 3 residents; or
- 3) That provides evidence of a commitment to subcontract in excess of 25 percent of the dollar award of all subcontractors to be awarded to business concerns that meet the qualifications set forth in paragraphs 1 or 2 above.

Section 3 Clause: This clause is contained in the Federal Riders that are required for all CDBG-DR funded contracts.

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

C. The contractor agrees to send to each labor organization or representative or workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training

Community Development Block Grant-Disaster Recovery - Section 3 Package for Contractors

positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

F. Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

Section 3 Covered Assistance: the use of \$100,000 or more of Community Development Block Grant-Disaster Recovery funds for construction, public works, and job training (related to construction and/or public works).

Section 3 Covered Contracts: a contract or subcontract in excess of \$100,000 (including a professional consulting contract) awarded by a recipient or contractor for work generated by the expenditure of Section 3 covered assistance, or for work arising in connection with a Section 3 covered project.

Section 3 Covered Projects: a project that is receiving Community Development Block Grant-Disaster Recovery funds in excess of \$100,000.

Section 3 Employee: A Section 3 employee is either:

- An employee who is currently a Section 3 resident; or
- An employee who was hired within the past three years, was a Section 3 resident upon hire, but whose household income/housing status no longer qualifies him/her as a Section 3 resident. Employers may claim credit for these positions for three years after this individual's date of hire.

Section 3 Resident: a public housing resident or a resident who is considered to be a low- or moderate-income person.

Subcontractor: any entity (other than a person who is an employee of the contractor) which has a contract with a contractor to undertake a portion of the contractor's obligation for the performance of work generated by the expenditure of Section 3 covered assistance, or arising in connection with a Section 3 covered project.

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Employee Self-Affirmation Form for Contractors and Subcontractors Subject to Section 3

This position is funded by Community Development Block Grant- Disaster Recovery (CDBG-DR), which Boulder County receives through the Federal Department of Housing and Urban Development (HUD). To comply with Section

3 of the Housing and Urban Development Act of 1968, HUD requires CDBG-DR funded projects to collect residency and income information for persons involved with construction-related contracts of \$100,000 or more. **Your response is voluntary, confidential, and has no effect on your employment.** However, the information on the form will help the County maintain the federal funds that support your position.

1. Do you wish to provide information to the County? YES NO
3. If YES, are you a resident of Boulder Colorado public housing? YES NO
4. Please review the chart below. Find the number of persons in your household and then **check the box** that contains the income range you believe your **household** earns on an annual basis. Income is defined as the total annual income of all family and non-family members 18+ years old living within the household. All sources of income must be counted from all persons in the household.

Please check your Income Range based on your household size (for example if there are 5 people in your household, go to HH of 5; if there are 8 or more in your household go to HH of 8):

Household Size	FY2013		FY2014		FY2015	
	Extremely Low Income	Low Income	Extremely Low Income	Low Income	Extremely Low Income	Low Income
1	\$19,250.00	\$45,100.00	\$20,200.00	\$44,750.00	\$20,900.00	\$46,100.00
2	\$2,200.00	\$51,550.00	\$23,100.00	\$51,150.00	\$23,850.00	\$52,650.00
3	\$24,750.00	\$58,000.00	\$26,000.00	\$57,550.00	\$26,850.00	\$59,250.00
4	\$27,500.00	\$64,400.00	\$28,850.00	\$63,900.00	\$29,800.00	\$65,800.00
5	\$29,700.00	\$69,600.00	\$31,200.00	\$69,050.00	\$32,200.00	\$71,100.00
6	\$31,900.00	\$74,750.00	\$33,500.00	\$74,150.00	\$34,600.00	\$76,350.00
7	\$34,100.00	\$79,900.00	\$36,030.00	\$79,250.00	\$37,700.00	\$81,600.00
8	\$36,300.00	\$85,050.00	\$40,090.00	\$84,350.00	\$40,890.00	\$86,900.00

5. Please check the box that most accurately describes your job classification.

- | | |
|--|--|
| <input type="checkbox"/> Professional
<input type="checkbox"/> Office and Clerical
<input type="checkbox"/> Sales
<input type="checkbox"/> Operative (semiskilled)
<input type="checkbox"/> Service Worker | <input type="checkbox"/> Technician
<input type="checkbox"/> Official / Manager
<input type="checkbox"/> Craft Worker (skilled)
<input type="checkbox"/> Laborer (unskilled)
<input type="checkbox"/> Other: _____ |
|--|--|

I affirm that the above statements are true, complete, and correct to the best of my knowledge and belief.

Signature _____

Date _____

Print Name _____

Date Hired _____

EMPLOYERS MUST RETAIN THIS FORM IN THEIR SECTION 3 COMPLIANCE FILE FOR FIVE YEARS.

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Community Development Block Grant-Disaster Recovery (CDBG-DR) Section 3 Summary Report Form for Contractors and Subcontractors

Your contract is funded either in whole or in part by Community Development Block Grant-Disaster Recovery (CDBG-DR), which is provided to Boulder County through the U.S. Department of Housing and Urban Development (HUD). HUD requires the County to collect work staff information on every contractor, subcontractor, etc. that receives a CDBG-DR funded, construction-related contract in excess of \$100,000, to ensure the County's compliance with Section 3 of the U.S. Housing & Urban Development Act of 1968. Section 3 requires recipients of HUD financial assistance to provide training, employment and contracting opportunities to Section 3 residents and businesses to the greatest extent feasible, consistent with existing federal, state, and local laws and regulations.

These forms must be completed by all firms working on a Section 3-covered project whose contract amount exceeds \$100,000, even if the firm is not a "Section 3 Business."

You must complete these forms for each year that your CDBG-DR contract is open. **The forms must be submitted to your funding agency in a timely manner and cover the reporting period during which the project was completed: FY2013 (Oct 1, 2012-Sept 30, 2013), FY2014 (Oct 1, 2013-Sept 30, 2014), FY2015 (Oct 1, 2014-Sept 30, 2015).**

If you subcontracted with another firm in excess of \$100,000 as part of this project, please forward the subcontractor a separate copy of this form and have them complete Parts II-V.

PART I: CONTRACTOR INFORMATION

Complete this section if you are the prime contractor on a CDBG-DR-funded project.

County Agency Overseeing Contract: Boulder County Department of Housing Human Services _____

Project Name: Demolition _____

Project Site: _____

Name of Firm: _____

Street Address: _____

County: _____ State: _____ Zip Code: _____

Report Period: _____

Contract Amount: _____

Date Submitted: _____

PART II: SUBCONTRACTOR INFORMATION

Complete this section if you are a subcontractor on a CDBG-DR-funded project.

Name of Firm: _____

Street Address: _____

County: _____ State: _____ Zip Code: _____

Firm Overseeing Subcontract: _____

Subcontract Amount: _____

Date Submitted: _____

Community Development Block Grant-Disaster Recovery (CDBG-DR) Section 3 Summary Report Form for Contractors and Subcontractors

Part III: Employment and Training Opportunities

1. Did your firm hire or train any new individuals in connection with any CDBG-DR-funded construction projects within the past calendar year?

YES NO

2. Please complete the chart below.

Job Category	TOTAL Number of New Hires ¹	Number of New Hires That Are Section 3 Residents ²	TOTAL Number of Employees and Trainees ³	Number of Section 3 Employees and Trainees ⁴
Professionals				
Technicians				
Office and Clerical				
Officials and Managers				
Sales				
Craft Workers (skilled)				
Operatives (semiskilled)				
Laborers (unskilled)				
Service Workers				
Other (List below)				
Total				

¹ Enter the number of new hires for each category of worker in connection with this award. **New Hire** refers to a person who was hired in connection with the Section 3-covered project and was hired during the period covered by this report.

² Enter the number of Section 3 new hires for each category of workers identified in Column A in connection with this award. **Section 3 new hire** refers to a person from a low- and moderate-income household who was hired in connection with the Section 3-covered project and was hired during the period covered by this report.

³ Enter the total number of all CDBG-DR-funded employees and trainees on the staff that work in connection with this award.

⁴ Enter the number of all Section 3 Residents (including new hires) on the staff that work in connection with this award.

3. Did your firm hire any subcontractors in connection with this award?

YES NO

4. If yes, was the value of any of these subcontracts in excess of \$100,000?

YES* NO

*If you answered yes, please forward each subcontractor a separate copy of this form and have them complete Parts II-V.

**Community Development Block Grant-Disaster Recovery (CDBG-DR)
Section 3 Summary Report Form for Contractors and Subcontractors**

Part IV: Summary of Efforts

1. Did your firm recruit low- or moderate-income residents through local advertising media; signs prominently displayed at the project sites; contacts with community organizations, and/or private or public agencies operating within Boulder County?

YES **NO**

2. Did your firm participate in a program that promotes the training or employment of Section 3 residents?

YES **NO**

3. Did your firm participate in a HUD program or other program that promotes the awards of contracts to business concerns which meet the definition of Section 3 business concerns?

YES **NO**

4. If you answered "Yes" to any of the previous questions, please describe your efforts in the space below.

Part V: Signature

I affirm that the statements contained in this report are true, complete, and correct to the best of my knowledge and belief.

Signature of Authorized Representative of Contractor / Subcontractor

Print Name:

Title

Date

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**SECTION 3
BUSINESS CERTIFICATION PACKET**

Your contract is funded either in whole or in part by the Community Development Block Grant- Disaster Recovery grant (CDBG-DR), which is provided through the United States Department of Housing and Urban Development (HUD). HUD requires the County to collect work staff information on every developer, contractor, subcontractor, etc. that receives a CDBG-DR funded, construction-related contract in excess of \$100,000, to ensure the County's compliance with Section 3 of the U.S. Housing & Urban Development Act of 1968. Section 3 requires recipients of HUD financial assistance to provide training, employment and contracting opportunities to Section 3 residents and businesses to the greatest extent feasible, consistent with existing federal, state, and local laws and regulations.

You can utilize this form to pre-certify that you are a Section 3 business concern during the RFP process or after being awarded a CDBG-DR funded contract.

Company: _____

Street Address: _____

County: _____ State: _____ Zip Code: _____

County Agency Overseeing Contract: _____

Please answer the following questions:

1. Is your company currently certified as a Section 3 business by the Colorado Department of Housing Human Services?

YES NO

2. Is your business owned (51% or more) by residents of Colorado Department of Housing Human Services?

YES NO

3. Is your business owned (51% or more) by individuals whose household incomes are BELOW 80% of Area Median Income (AMI)? *See chart below.*

YES NO

# of People in Household	Gross Income Is No Greater Than 80% AMI
1	\$46,100.00
2	\$52,650.00
3	\$59,250.00
4	\$65,800.00
5	\$71,100.00
6	\$76,350.00
7	\$81,600.00
8	\$86,900.00

4. Do 30% (or more) of your full time, permanent employees have household incomes that are BELOW 80% of Area Median Income (AMI)? *See chart above.*

YES NO

**SECTION 3
BUSINESS CERTIFICATION PACKET**

5. Are 30% (or more) of your full-time, permanent employees residents of Colorado Department of Housing Human Services?

YES NO

6. Will you sub-contract more than 25% of this contract with any business that has any of the characteristics noted in the Questions 1, 2, 3, 4 or 5?

YES NO

If you plan to subcontract for any of the work on this project, please complete the chart below for each subcontracting firm and return the form to the funding County agency.

Subcontractor Name	Address	Type of Contract <i>(i.e. specified building trade, professional services, etc.)</i>	Amount of Subcontract	Is this business a Section 3 business?*
			\$	
			\$	
			\$	
			\$	
			\$	
			\$	
			\$	
			\$	
			\$	
			\$	

**If YES, a Section 3 Business Questionnaire should be completed by the business and must be attached.*

I certify that the above statements are true, complete, and correct to the best of my knowledge and belief.

Signature: _____

Print Name: _____

Title: _____

Date: _____

COPY THIS FORM AS NEEDED

Permanent Private Bridges

General Information and Technical Guidance



Introduction

This document is intended to provide general information and technical guidance to the regulatory process for constructing a permanent private access crossing over a waterway. In the event of a conflict with an adopted regulation, e.g., on some technical detail or procedural question, the adopted regulation shall govern. Section I provides information regarding the overall process as well as important information to keep in mind as the applicant moves through the process. Section II provides technical floodplain modeling guidance.

Section I - Process

Community Development Block Grant – Disaster Recovery (CDBG-DR)

Residents may be eligible to receive Community Development Block Grant- Disaster Recovery (CDBG-DR) funds for home access repair or replacement. All owner-occupied homeowners and full-time rental properties owners are invited to apply for CDBG-DR Home Access funding assistance. CDBG-DR applicants may contact Kate Williams (720-564-2237, kwilliams@bouldercounty.org) or Matt Betz (303-4411723, mbetz@bouldercounty.org) regarding CDBG-DR funding eligibility and processes. Applicants are strongly encouraged to meet with Kate or Matt **before** starting any bridge or culvert project due to strict eligibility requirements associated with funding.

NOTE: Starting the bridge permitting process *before* being approved for CDGB-DR funds could make an applicant ineligible for reimbursement of the design and construction work.

Point of Contact Information

Various staff in Boulder County will review and evaluate the applications and engineering documents submitted to obtain permits for a permanent private bridge. In order to simplify the process for both applicant and staff, a point of contact (POC) will be designated for the applicant to coordinate, monitor and assist in evaluation of the application and supplemental documents.

Where CDBG-DR funds are being requested, the POC will be Kate Williams (720-564-2237, kwilliams@bouldercounty.org) or Matt Betz (303-441-1723, mbetz@bouldercounty.org). Where CDBG-DR funds are not being requested, the initial POC will be the Flood Recovery & Permit Information Center (FRPIC) at 303-441-1705. After initial contact, a specific POC for design and permitting will be designated.

Because information is often time sensitive and accuracy is important, it is important to maintain contact with the designated POC unless specifically directed to another one.

Engineering Consultants & Permit Applications

In order to obtain a permit for a water crossing located within a regulatory floodplain, the applicant must hire a Professional Engineer with hydraulic and hydrologic engineering expertise (Consultant) that is licensed in the State of Colorado. The Consultant will conduct the hydraulic modeling necessary to obtain a floodplain development permit. This work cannot be completed by the property owner. The hydraulic modeling report and associated certifications must be stamped by a Professional Engineer licensed in the State of Colorado. All bridges, structures or culverts, whether located in a regulatory floodplain or not, must be designed by a structural engineer licensed in the State of Colorado and must adhere to the current adopted Storm Drainage Criteria Manual.

The following URL provides a link to permit applications, instructions and checklists needed to plan, design, and construct a permanent private bridge in unincorporated Boulder County:
<http://www.bouldercounty.org/roads/permits/pages/bridgeconstructionpermit.aspx>

Pre-application Conference/Kick-off Meeting

In order to ensure that all parties (applicant, engineer(s), Boulder County personnel) are operating with a shared understanding, a Pre-application Conference or Kick-off Meeting will be held to review any known special or unique requirements for a permanent bridge in the proposed location and confirm that the proposed location can meet the Multimodal Transportation Standards. Project goals will be discussed, as well as process expectations and timelines. This meeting is the forum to air questions and concerns before work begins. The Consultant should contact the POC to clarify the hydraulic modeling requirements and to receive any new data that may be available to help reduce engineering costs.

Floodplain Modeling

The purpose of the modeling is to demonstrate that any structure placed within the regulatory floodplain will not have a negative impact to that floodplain. This can be an iterative process, with alternative locations, designs and channel work considered in order to meet floodplain regulations.

The Colorado Water Conservation Board, Colorado Department of Transportation, and Boulder County have some modeling data along streams. The Transportation Department will provide the most current modeling data, if available, for the area of the applicant's crossing, which could be incorporated into their model. Once the proposed private access water bridge has been successfully modeled, the final design of the bridge may begin.

For more technical guidance regarding this process, please see the two technical guidance sections below.

Bridge Permit Checklist Completion and Completeness Check

When the bridge design is complete, review the "Bridge Permit Deliverables Checklist" to ensure all of the requirements have been completed and all necessary supporting documents are complete and accurate. The complete Bridge Application package should be submitted to the POC to review before final submittal to the Building Department to verify that all necessary documents are in order and to prevent possible delays during departmental review. The goal of the completeness check is to reduce the possibility of iterations. The complete packet may be submitted at the counter in the Building Department, which acts as the application for both a Floodplain Development Permit (FDP) and a Building Permit. Please refer to <http://www.bouldercounty.org/roads/permits/pages/bridgeconstructionpermit.aspx> for the checklist.

Permit Issuance, Construction, Inspection, and Approval

Upon submission of the completed packet, the application will be reviewed by multiple departments for adherence to policy. During the Floodplain review, notification mailers will be sent to all surrounding neighbors with a 14-day response period. Due to the required response time, expect at least a 2 week window from application submittal to permit issuance. Once all applicable permits are approved and issued, construction of the bridge may begin. If all is approved, the FDP and Building Permit will be closed out and the License Agreement and Access Permit will be signed off.

Section II – Technical Guidance

Floodplain Modeling

An applicant seeking a floodplain development permit for development in the floodway must either provide 1) a “no-rise” comparison between existing (see definitions below) and proposed post-project conditions or 2) receive a Conditional Letter of Map Revision (CLOMR) from FEMA. Both demonstrating “no-rise” and applying for a CLOMR generally requires a hydraulic computer model that compares existing and proposed conditions and conforms with Boulder County Land Use Code Section 4-407.B.7.

The Transportation Department is also applying for CLOMRs for portions of the new road projects. There is a possibility that some bridge crossings may be included in the County initiated CLOMRs. If a proposed bridge crossing was included in the County initiated CLOMR, as long as the actual proposed bridge is designed to meet the dimensions referenced in the CLOMR application, then additional hydraulic modeling may not be necessary. Please contact the Floodplain Team at 720-564-2865 to help determine if the proposed bridge location has already been included in a hydraulic model.

Creating the Model

Generally, a hydraulic model will be needed for permit approval of permanent bridge construction in the regulatory floodway. The applicant’s engineer is encouraged to work with the POC from Boulder County to ensure that the most current data and regulations will be used for the floodplain modeling and floodplain development permit application.

The model will need to simulate 1,000 feet upstream and 1,000 feet downstream of the proposed bridge location. If the applicant’s engineer believes a shorter analysis reach is sufficient, the engineer will need to present justification for the shorter extents. In the rare cases where the applicant can demonstrate that the pre-flood and post-flood topography are the same 1,000 feet upstream and 1,000 feet downstream of the former bridge’s location, a bridge of identical dimensions to the previous bridge can be rebuilt without modeling.

The hydraulic model will include both an existing conditions simulation and a proposed condition simulation.

A. Existing Conditions Model:

- i. For flood recovery “no-rise” modeling analysis, FEMA has approved using either 2012 pre-flood or current on the ground conditions as existing conditions. If pre-flood conditions are used, the previously existing crossing must be included in the model. If using on the ground conditions, the model must reflect current conditions.
- ii. In the event that a CLOMR is needed, an effective, corrected effective, existing condition, and proposed condition models will be required.
- iii. Pre-Flood or Existing Topography: 2012 LiDAR data may be used as a starting point to create the pre-flood geometry. Alternatively, 2013/2014 LiDAR may be used as a starting point to create the current conditions geometry. Please use most recent LiDAR dataset. To obtain the 2012, 2013, or 2014 LiDAR data, please go to <https://geodata.co.gov>.
- iv. Pre-Flood Crossing: The dimensions of the previously existing crossing destroyed or damaged by the 2013 floods can be obtained from the original bridge plans, the building permit for the bridge, past County bridge inventory data, past photos of the bridge, etc.

The Transportation Department must approve the data and method used for obtaining the previous bridge's dimensions.

- v. Flow Rate and Roughness: The existing conditions model shall use the most conservative 100-year flow rates for all analyses. The 10-year, 25-year, and 50-year flow rates for scour and freeboard shall be taken from the same model used for the 100-year flow. Roughness coefficients shall be assigned based on site specific conditions and justified in the submitted report.
- vi. Bridge guard rails must be included if present in pre-flood bridge and shall be modeled as 50% obstructions.

B. Proposed Conditions Model:

- i. Proposed Conditions Topography: 2013/2014 LiDAR data may be used as a starting point to create the proposed conditions model. Please use the most recent LiDAR dataset. 2013/2014 LiDAR data may be downloaded from: <https://geodata.co.gov>.
- ii. Proposed Conditions Surveying: A survey of the bridge location as well as additional cross-sections upstream and downstream must be completed. The number of additional cross sections will depend upon the given channel geometry, but should be sufficient in number to accurately complete the model. The survey must also include the approved extents of the model where changes to the stream channel have occurred since the 2013/2014 LiDAR collection. Use of other local post-flood surveys or models can be incorporated into the applicant's model with the approval of the Transportation Department.
- iii. Proposed Bridge: The dimensions of the proposed bridge and any other proposed improvements need to be included in the proposed conditions model.
- iv. Flow Rate and Roughness: The proposed conditions model shall use the most conservative 100-year flow rates for all analyses. The 10-year, 25-year, and 50-year flow rates for scour and freeboard shall be taken from the same model used for the 100-year flow. Roughness coefficients shall be assigned based on site specific conditions and justified in the submitted report.
- v. Bridge guard rails must be included and shall be modeled as 50% obstructions.

C. If a Rise is Unavoidable:

- i. The bridge must be designed in such a manner that the design results in the least amount of rise feasible.
- ii. The applicant must apply to FEMA for a CLOMR. FEMA reviews CLOMR applications and decides if the rise is permissible relying largely on whether the rise affects an insurable structure.
- iii. If the CLOMR is approved, the applicant must also obtain a Letter of Map Revision (LOMR) once the bridge has been constructed.

D. Freeboard and Scour:

- i. The Storm Drainage Criteria Manual (SDCM) contains the specific freeboard, scour, and scour countermeasure requirements for proposed bridges. Please note that the bridge criteria in Sections 100 & 1000 were recently revised and may be found here: <http://www.bouldercounty.org/property/flood/pages/stormdrainagemanual.aspx>

Once the Transportation staff has determined that the hydraulic modeling is sufficient and that the proposed bridge location is feasible, the applicant may proceed with the structural design of the bridge. Please note that there may be some very specific instances where a proposed bridge may not be feasible. In that event, the Transportation staff will work with the applicant and their P.E. on an alternative solution.

Design Exceptions for Flood-Affected Accesses

Policy

Section 2.8.5 of the Boulder County Multimodal Transportation Standards (Standards) allows for design exceptions where it may be exceptionally difficult to both conform to these Standards and to maintain the special character and environmental values associated with the County's historic townsites, environmentally significant areas, or areas with significant view sheds.

In light of the 2013 Flood event, the ability to consider design exceptions has been expanded to flood-affected private accesses. Because of the challenges many owners face when rebuilding bridge structures in compromised waterways, all design exception requests that meet the criteria listed below will be considered.

When applying for a design exception, the applicant will document in writing good and sufficient cause for a requested design exception on the most recent Boulder County Design Exception Request Form, which is to be signed by a Colorado Professional Engineer. The rationale for the Design Exception Request shall demonstrate the following:

1. It is not likely to compromise public safety.
2. It is **not contrary to best engineering practices**, as reflected by the approach outlined in the American Association of State Highway and Transportation Officials' (AASHTO) Guide for Achieving Flexibility in Highway Design or other guidelines that may be more appropriately applied to flood-affected access issues and are widely accepted in the engineering community.
3. It is not contrary to the intent and general purpose of:
 - a. the Standards, including, without limitation, an appropriate balance of safety, multimodal mobility, and pursuit of the environmental, community, and sustainability goals outlined in the Comprehensive Plan;
 - b. the Land Use Code, including regulations related to the Floodplain Overlay District in Section 4-400;
 - c. the most recently approved Boulder County Storm Drainage Criteria Manual (SDCM); and
 - d. the most recently approved International Building Code.
4. It does not result in a significant impact to the public due to maintenance of the improvements.
5. It is reasonably necessary for the health, safety, and welfare of the public.

Note that temporary construction conditions are not a viable reason for a design exception request. Upon receipt of a written request for a design exception the County Engineer may issue a determination on whether a design exception should be granted or denied given the context. The County Engineer will provide a copy of the determination to the applicant.

Steps to Applying for a Design Exception

All design exception requests must be completed and submitted by a qualified professional engineer registered in the State of Colorado.

1. Describe the design alternative being proposed.
2. Identify the standard for which the exception is being requested.
3. Identify a guideline that is widely accepted in the engineering community that provides guidance in keeping with the design exception request. While a list of accepted guidelines is provided

below, the engineer may provide a guideline not on the list to the County Engineer for review and approval.

4. Describe why, in the engineer's professional opinion, the design exception will meet the design exception criteria.

Resources

AASHTO Guide for Achieving Flexibility in Highway Design – First Edition

Federal Highway Administration's (FHWA) Hydraulic Engineering Circular 23 (HEC-23) Bridge Scour and Stream Instability Countermeasures: Experience, Selection, and Design Guidance – Third Edition

FHWA HEC-18 Evaluating Scour at Bridges – Fifth Edition

FHWA Hydraulic Design Series Number 7 (HDS-07) Hydraulic Design of Safe Bridges

FHWA HDS-06 River Engineering for Highway Encroachments: Highways in the Rive Environment

FHWA HDS-05 Hydraulic Design of Highway Culverts – third Edition

The following statement must be provided to the County (stamped and signed) along with bridge construction plans and will be accepted either printed on the construction plans or as a standalone sheet:

I hereby affirm that the design calculations and plans for the private access bridge at [insert address] were prepared by me, or under my direct supervision, for the owners thereof, in accordance with the requirements of the International Building Code, the Boulder County Land Use Code, the Boulder County Multimodal Transportation Standards, the Boulder County Storm Drainage Criteria Manual, any approved variances and exceptions thereto, and my professional engineering judgment. I understand that Boulder County does not and will not assume liability for facilities, structures, or improvements designed by others.

Registered Professional Engineer [Affix Seal]

State of Colorado No. _____

Bridge construction must comply with many different sections of Boulder County code, standards, and criteria. This document outlines the applicable requirements for most bridges. Additional requirements may apply. For additional information, contact Boulder County Transportation Department at 303-441-3900.

Boulder County Land Use Code Section 4-400

If the bridge is located within the floodplain overlay district, it must comply with all of section 4-400 of the Boulder County Land Use Code.

<http://www.bouldercounty.org/doc/landuse/lucodearticle04.pdf>

Although all of 4-400 must be complied with, particular attention should be given to the requirements listed in the following sections:

- 4-403A.6. , no development on or over any part of the floodway:
 - *' may be permitted which adversely effects the efficiency of the floodway or changes the direction of flow or causes any increase in the base flood elevation'*
- 4-407B.7., a floodway analysis is a necessary part of an application for a floodplain development permit for development located in the floodway. Specific requirements for the floodway analysis are listed in 4-407B.7.
- 4-407C., the standards for floodplain permit review. Each standard should be addressed in the permit application.
- 4-407D., floodplain development permits for development within the floodway require public notification of adjacent property owners. This notice will be sent out immediately upon application submittal to Boulder County.

Boulder County Storm Drainage Criteria Manual

All bridges must comply with the Boulder County Storm Drainage Criteria Manual, in particular Section 1000 found at:

<http://www.bouldercounty.org/property/flood/pages/stormdrainagemanual.aspx>

Attention should be given to section 1003.6 'Design Standards for Private Driveway Bridges' which gives requirements for allowable low chord elevation above the 10-year water surface (or Energy Grade Line) and requires consideration of whether the flow is being accelerated to velocities sufficient to scour.

Building Codes

On your submitted construction documents, please list the currently adopted building codes, 2012 IBC with the Boulder County amendments. These codes can be found at:

<http://www.bouldercounty.org/doc/landuse/2012buildingcode.pdf>

Although all of the building codes must be complied with, particular attention and code analysis should be given to the requirements listed in the following sections:

- 1604.5 Risk category
- 1605 Load Combinations
 - 1605.1 General. Buildings and other structures and portions thereof shall be designed to resist:
 - 1605.1.1 Stability
 - 1605.2.1 Other loads and ASCE 7 Section 2.3.3 or 2.4.2
- 1607.7.2 Fire truck and emergency vehicles.
- 1607.7.5 Posting. The maximum weight of the vehicles allowed into or on a garage or other structure shall be posted by the owner in accordance with Section 106.1.

Also, submitted plans must include the following details;

- Connection details of beams to the abutments,
- Decking fastener spacing, and
- Guard post connection.

Transportation Standards

Bridge Transportation Requirements are found in the Boulder County Multimodal Standards:

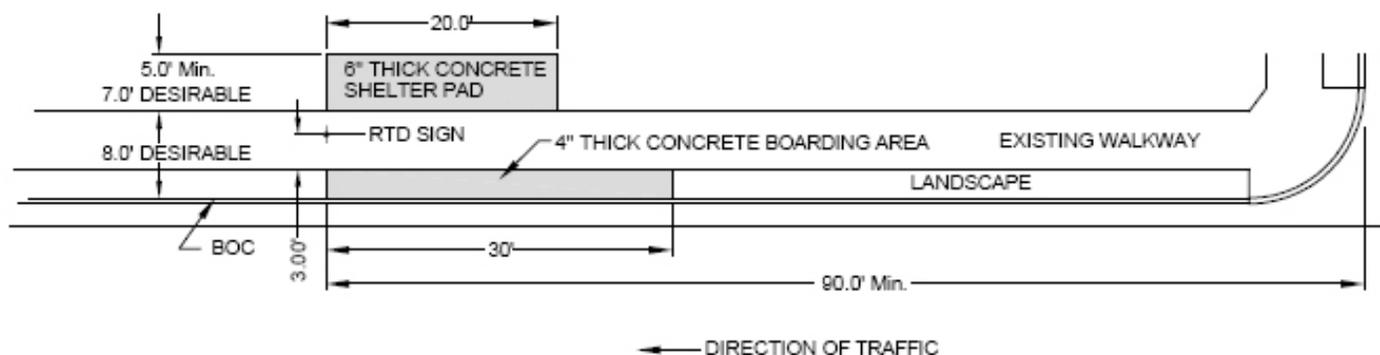
<http://www.bouldercounty.org/doc/transportation/multimodaltransstds.pdf>

The primary location for bridge requirements is found in Section “5.10.1 Vehicular Bridges” and “5.10.2 Pedestrian Bridges”. Table 5.10.1.1 and Table 5.10.2.1 list the loading and dimensional requirement for bridges given their Roadway Classification. Most requirements are based on the American Association of State Highway Transportation Officials (AASHTO) guidelines. Fire Protection District bridge loading and dimensional requirements must be followed as listed on the Fire Department requirements form submitted with the permit application.

In instances where the proposed creek crossing closely abuts the County Right-of-Way, additional requirements from the standards become applicable:

- 5.3.2.3 Horizontal & Vertical Clearances for road clearance requirements;
- 5.3.5.6 Intersection Sight Distance Considerations;
- 5.4 Access Control, the proper intersection spacing is outlined per the intersecting road’s classification;
- 5.5 Parcel Access Standards, particularly Table 5.5.5 Parcel Access Design Standards:
 - Approach to Highway, and
 - Standard Drawings 12, 13, and 14.

Any design exceptions from the standards need to be approved by the County Engineer following the procedure outlined in Section 2.8.5 in the Transportation Standards.



1 **DETAIL 1 - BUS STOP LAYOUT FAR SIDE APPLICATION**
 SCALE: 1" = 10'
DETACHED WALKWAY

5.8.7 Transit Queue Jump Lanes at Signalized Intersections

Signalized roadway intersections along a transit route may offer the opportunity to provide transit queue jump lanes for buses operating in the corridor. Queue jump lanes expedite transit service by allowing buses to move to the front of the line when a traffic signal is red. Buses using the queue jump lanes pass through the intersection when the signal turns green and often access a “far side” transit stop.

Transit queue jump lanes are often the continuation of a “right lane must turn right” lane for automobiles. The lane becomes a “bus only” lane straight through the intersection beyond the point where right turning automobiles have turned. In this context, the lane approaching the intersection is a “buses and right turns only” lane.

At larger intersections with multi-lane approaches and right turn bypass islands that channelize right turning vehicles, a bus queue jump lane shall be located along the left edge of the island, immediately to the right of the outside automobile through lane. The bus lane located against the island shall be at least 11 feet wide.

A bus queue jump lane next to a right turn island shall be designated as a “BUS AND BIKE ONLY” lane where the roadway has a bicycle lane or bikeable shoulder on the intersection approach. See Standards Drawing 6 and the MUTCD for additional signing and marking guidance.

5.9 Storm Drainage Design Standards

This section presents general recommended guidelines for the design of road drainage systems. For specific design parameters as well as procedures for determining drainage performance for urban and rural roads, refer to the latest version of the Boulder County Storm Drainage Criteria Manual (BCSDCM).

5.9.1 Design Criteria for Storm Drainage in Roadways

Minimum standards for inundation and conveyance of storm drainage in roadways are defined based on street classification and provided in the BCSDCM.

5.9.2 Culverts

5.9.2.1 Materials

Roadway cross culverts shall be constructed with reinforced concrete, unless otherwise approved by the County Engineer and Road Supervisor. Private driveways may be constructed with corrugated steel. The minimum pipe size shall be an 18-inch diameter round pipe or shall have an equivalent 18-inch round cross sectional area for other shapes.

5.9.2.2 Inlets and Outlets

An important consideration in the design of a culvert is the inlet configuration, since the inlet often limits the hydraulic capacity of the culvert. The inlet type can also increase the overall structural integrity by retaining the fill slope, and by preventing inlet scour with subsequent undermining of the culvert.

All culverts in the public right-of-way shall be designed using headwalls, wingwalls, or flared-end sections at the inlet and outlet. Additional protection using riprap may also be required at the inlet and outlet due to the potential scouring velocities.

5.9.2.3 Hydraulics

When evaluating the capacity of a culvert, refer to the BCSDCM.

5.9.2.4 Velocity

Minimum culvert velocity shall be 3 feet per second (fps) to ensure a self-cleaning condition. The maximum culvert velocity is dictated by the channel conditions at the outlet. If the outlet velocities are less than 7 fps for grassed channels, then only a minimal amount of protection is required, due to the eddy currents generated by the flow transition. Higher outlet velocities will require substantially more protection. The maximum outlet velocity shall be 12 fps along with the proper erosion protection.

5.9.2.5 Structure

All culverts, as a minimum, shall be designed in accordance with the procedures of AASHTO Bridge Standards or ASTM Pipe Standards and with the pipe manufacturer's recommendations.

5.9.3 Roadside Ditches

In rural areas or areas where no curb and gutter is required, roadside ditches should be designed with adequate capacity to convey the 5-year storm runoff peak. Where storm runoff exceeds the capacity of the ditch, a storm sewer system may be required. For capacity definitions and maximum allowable velocity, refer to the BCSDCM.

Roadside drainage ditches shall be grass lined. Revegetation and/or soil preparation for grass-lined ditches shall be in accordance with the Urban Drainage Storm Drainage Criteria Manual (UDSDCM), or as directed by the County.

5.9.4 Conveyance Systems

Refer to the latest version of the BCSDCM for storm water conveyance system design criteria that is not listed here.

5.9.4.1 Materials

Pipe material shall be reinforced concrete or corrugated steel pipe with a minimum of 18-inch diameter.

5.9.5 Hydraulic Criteria

Refer to the latest version of the BCSDCM for hydraulic design criteria.

5.9.6 Stormwater Permitting

Storm water is regulated by the State of Colorado and permits may be required based on the size of the disturbed area.

- Colorado Department of Public Health and Environment (CDPHE) requirements- A permit is required for work that disturbs greater than 1.0 of an acre, the Stormwater Discharge Permit must be obtained from the CDPHE for other construction site runoff control requirements. Refer to Article 7-903 of the Boulder County Land Use Code.
- U.S. Army Corps of Engineers (USACoE) 404 Permit – This permit shall be required for all projects within ordinary high water (in the absence of wetlands) in waters of the United States. Ordinary high water is defined as the level to which water rises in a typical spring runoff. Waters of the United States includes essentially all surface waters and their tributaries, all wetlands adjacent to these waters, and all impoundments of these waters. The need for a 404 permit will be determined by contacting the USACoE Denver Regulatory Office to request a pre-application consultation and/or official determination.

5.10 Bridges, Underpasses, Low Water Crossings and Retaining Walls

5.10.1 Vehicular Bridges

The intent of bridge design is to provide a safe waterway, vehicular or railroad crossing that provides adequate load carrying capacity, hydraulic capacity, and clearances for motorized vehicles, pedestrians and bicycles. Vehicular bridges are often community landmarks that are noticed by hundreds and perhaps thousands of residents daily. Because of this, it is important that their design reflects the character of Boulder County.

5.10.1.1 Standards

- Table 5.10.1.1 defines the standards for vehicular bridges.
- Vehicular bridge design shall be performed in accordance with the latest AASHTO Bridge Standards on public right-of-way and private roads (or IBC requirements on private driveways) as identified on Table 5.10.1.1.
- Vehicular bridge lane widths, shoulder widths and sidewalk widths shall match the approach roadway widths, but in no case shall they be less than identified in Section 5.3.1.
- Pedestrian sidewalks and/or bikeable shoulders shall be provided on all vehicular bridges in the public right-of-way.
- Vehicular bridges may need to be designed aesthetically, as determined through the Land Use Code process or by the County Engineer, to meet the character of the location. Architectural renderings of bridges shall be submitted to the County Engineer for approval when aesthetics are required.
- Vehicular bridges shall be constructed of concrete and/or structural steel. Timber bridges will only be allowed for residential and local roads with County Engineer approval.
- Bridge longitudinal slope shall be between 0.5 percent minimum to 4 percent maximum.
- Bridge foundation scour depth shall be designed according to the requirements as indicated in Table 5.10.1.1 below

Roadway Classification	Design Standard	Design Vehicle (1)	Bridge Rail Test Level (TL)	Min. Freeboard (2)	Scour Depth (3)
Residential	IBC or AASHTO (1)	50 psf (IBC), HS 15-44 min. or HL-93	TL-2	1'	4' min.
Local, Local Secondary	AASHTO	HL-93	TL-2	Per AASHTO	100-year or 6'
Collector	AASHTO	HL-93	TL-2	Per AASHTO	500-year (3)
Arterial	AASHTO	HL-93	TL-3	Per AASHTO	500-year (3)

Table notes:

- 1) Design vehicle per local fire department loading requirements. Truck loading shall be used where grades permit permanent truck access or where the bridge is required for construction.
- 2) Freeboard at ditch crossings shall be coordinated with the ditch company.
- 3) Scour depths for indicated flood events to be determined through scour analysis using HEC-RAS.

5.10.1.2 Submittal Requirements

- Submittals shall be according to Section 2.8.3
- A geotechnical investigation and recommendations shall be submitted with each bridge design. A minimum of two borings, one at each abutment, shall be provided at each bridge location.
- A floodplain analysis according to the requirements of the Boulder County Storm Drainage Manual shall be performed for all vehicular bridges over waterways.
- Bridge design shall be signed and sealed by a registered Colorado Professional Engineer qualified in structural bridge design. Calculations with an independent design check and load rating shall be submitted on all bridges located on the public right-of-way.
- A Boulder County Building Permit is also required.

5.10.2 Pedestrian Bridges

The intent for pedestrian bridges in Boulder County is to provide a safe waterway, vehicular, or railroad crossing that provides adequate load carrying capacity, hydraulic capacity and clearances for pedestrians, bicycles, equestrians and maintenance vehicles. Pedestrian bridges, like vehicular bridges, are landmarks and should be designed with appropriate aesthetics for their particular location.

5.10.2.1 Standards

- Table 5.10.2.1 defines the standards for pedestrian bridges.
- Pedestrian bridges located on public lands shall be designed according to AASHTO requirements. Pedestrian bridges on private lands may be designed according to AASHTO or IBC requirements.
- Architectural renderings of bridges shall be submitted to the County Engineer for approval when aesthetics are required.
- Pedestrian bridges should be constructed of steel, concrete, or timber.
- Pedestrian bridges shall have longitudinal slope of 5 percent maximum.
- Pedestrian bridge foundation scour depth shall be designed according to the requirements as indicated in Table 5.10.2.1.
- Pedestrian bridges shall have 1 foot minimum freeboard over the 100-year flood elevation, or they shall be designed with break-away abutments that allow the bridge superstructure to swing to the side so as to not impede flows.

- The low chord of pedestrian bridges shall be a minimum of 16 feet above collector, arterial roads, and local roads; 14 feet over private and local roads; and 25 feet over railroads. Bridges less than 16 feet over roads shall be posted with the actual clear height.

Classification	Design Standard	Vehicle/ Live Load	Min. Width	Deck Surface	Rail Height	Rub Rail Required	Footing Scour Depth
Public Land	AASHTO	per AASHTO	Trail Approach width, but not less than 8'	Concrete or Timber (Concrete where plowing occurs)	42"	Yes	4' min.
Private Property	IBC or AASHTO	60 psf (Per IBC)	Trail Approach Width, but not less than 4'	Concrete or Timber	42"	No	Equal to frost depth

5.10.2.2 Submittal Requirements

- Submittals shall be according to Section 2.8.3
- A geotechnical investigation and recommendations shall be submitted with each bridge design. A minimum of two borings, one at each abutment, shall be provided at each bridge location.
- A floodplain analysis according to the requirements of the BCSDM shall be performed for all new pedestrian bridges over waterways where impacts are expected.
- Bridge design shall be signed and sealed by a Colorado Professional Engineer qualified in structural bridge design. Calculations shall be submitted for all pedestrian bridges on public lands.
- A Boulder County Building Permit is also required.

5.10.3 Shared-Use Path Underpasses

The intent for shared-use path underpass design is to provide, via an underground structure, a safe waterway, vehicular or railroad crossing that provides adequate load carrying capacity, hydraulic capacity, and clearances for pedestrians, bicycles, equestrians and maintenance vehicles. Underpasses may be stand-alone structures or they may be constructed under a bridge that has a span considerably greater than the required underpass width.

5.10.3.1 Standards

- Underpass design shall be performed in accordance with the latest AASHTO Bridge Standards as identified on Table 5.10.1.1 or standard Concrete Box Culvert sections from the M & S Standards. M & S Standards may be used for the underpass structure.
- Underpass width shall be the same width as the approaching path plus a minimum of 2-foot shoulders on each side; but in no case shall underpasses be less than 14 feet wide.
- Underpass vertical clearance shall be 8.5 feet minimum for normal use, and 10 feet for equestrian use. Vertical clearances as low as 7.5 feet may be used, with the approval of the County Engineer, in locations where utility and/or water table impacts will be significantly reduced.
- Underpasses may need to be designed aesthetically, as determined through the Land Use Code

process or the County Engineer, to meet the character of the location. Aesthetic treatment may consist of architecturally detailed vehicular railings on the roadway and/or veneer or form liner applied to wingwalls. Architectural renderings of bridges shall be submitted to the County Engineer for approval when aesthetics are required.

- Underpasses shall be constructed of cast-in-place or precast concrete. Cast-in-place concrete is preferred; however, precast may be used in locations where the water table is sufficiently below the underpass structure and where the speed of installation of precast members will provide substantial benefit to reduced construction time on roads with high traffic volumes. Three or four sided underpass structures are acceptable.
- Underpass longitudinal path slope shall be between 0.5 percent minimum to 4 percent maximum, with 2 percent being optimum.
- Concrete surfacing shall be used for the underpass and underpass approach to facilitate adequate drainage. Cross slope shall be 2 percent. The underpass path may be crowned or may be sloped to one side. A minimum 2-foot wide drainage pan shall be provided on the path side(s) to convey surface drainage to a storm inlet and manhole with a gravity outfall. A pumped drainage system may be used where site grading does not allow a gravity drain and electricity is accessible.
- All underpasses shall be provided with a subgrade drainage system, regardless of observed water table depth. The drainage system should consist of perforated drainpipe located behind the underpass structural walls and underneath the underpass slab. Drainage shall be carried to the same manhole used for collecting surface drainage.
- The exterior surface of underpass walls shall be coated with bituminous damp proofing and the top surface of underpass roofs shall be provided with waterproofing membranes.
- Exposed underpass wall, roof, and wingwall surfaces shall be provided with either a sacrificial graffiti resistant coating or textured form liner to resist graffiti.
- Underpass approach grades shall be according to ADA requirements, wherever possible. Underpass approach grades shall be as straight as possible entering and exiting the structure. In no instance shall the tangent at each end of the underpass be less than 10 feet long.
- Grading at underpass entrances shall be as physically and visually open as possible, using gentle slopes and/or tiered retaining walls to provide as open and inviting an entrance as possible.
- Lighting shall be considered for use in long underpasses or where public safety requires.

5.10.3.2 Submittal Requirements

- Submittals shall be according to Section 2.8.3
- A geotechnical investigation and recommendations shall be submitted with each underpass design. A minimum of two borings, one at each abutment, shall be provided at each underpass location. Water table elevations shall be indicated on all boring logs. Seasonal conditions at the time of recording water table depth shall be considered in determining water table impacts.
- A floodplain analysis according to the requirements of the BCSDM shall be performed for all underpasses that serve a dual purpose of transportation and floodplain mitigation. This includes stand alone precast or cast-in-place structures, or underpasses that travel below a bridge structure.
- Underpass structural design shall be signed and sealed by a Colorado Professional Engineer. Calculations with an independent design check and load rating shall be submitted on all underpasses located in the public right-of-way.

5.10.4 Low Water Crossings

The intent for low water crossing design is to provide via a series of culverts, safe waterway crossings that provide adequate load carrying capacity, hydraulic capacity and clearances for motorized vehicles, pedestrians and bicycles.

5.10.4.1 Standards

- Refer to the BCSDCM for Low Water Crossing details and design standards.
- Low water crossing design loads shall be the same as for vehicular bridges.
- Road approach grade shall be between 0.5 percent minimum and 12.0 percent maximum.
- Side slopes shall not be steeper than 3:1 and shall be protected by a six-inch concrete facing or by 18-inch riprap.
- The culverts used shall be corrugated steel pipe or reinforced concrete pipe with a minimum diameter of 18 inches.
- Minimum cover over culverts shall be 12 inches or as recommended by manufacturer for round pipe down to 6 inches for concrete pipe; 18 inches or as recommended by manufacturer for arch pipe; or 12 inches if HS 10-44 loading is applied.

5.10.4.2 Submittal Requirements

- Submittals shall be according to Section 2.8.3
- A floodplain analysis according to the requirements of the BCSDCM shall be performed for all low water crossings.

5.10.5 Retaining Walls

The intent for retaining walls is to safely retain soil to minimize site impacts.

5.10.5.1 Standards

- Retaining walls shall be designed according to AASHTO or IBC requirements.
- Retaining walls may need to be designed aesthetically, as determined by the County Land Use Code process or the County Engineer, to meet the character of the location. Architectural renderings of walls shall be submitted to the County Engineer for approval when aesthetics are required.
- Footing depth shall be 24 inches minimum for retaining walls susceptible to frost heave in mountainous areas; 30 inches minimum for walls susceptible to heave on the plains.
- Provide adequate surface and subsurface drainage, with erosion protection, behind the wall to carry drainage without damaging the retaining wall.
- Retaining wall height shall be limited to 6 feet (exposed height) tiers, although taller walls may be utilized if visual impacts are mitigated.
- Distance between wall tiers shall be determined by calculation, but shall not be less than the lower tier height.
- The entire retaining wall structure shall be contained within property or right-of-way, otherwise right-of-way shall be obtained for portion of the retaining wall that is beyond the existing property line.

5.10.5.2 Submittal Requirements

- Submittals shall be according to Section 2.8.3
- A geotechnical investigation and recommendations shall be submitted with each retaining wall design.
- Retaining wall design shall be signed and sealed by a Colorado Professional Engineer for retained heights greater than 4 feet. Calculations shall be submitted for all retaining wall heights over 6 feet in height.
- A Boulder County Building Permit is also required.



Bridge Permit Deliverables Checklist

The following checklist outlines the materials that must be submitted to Boulder County Building Safety and Inspection Services to obtain a Floodplain Development and Building Permit for a bridge:

- Completed Application Form
- A deposit, two complete sets of plans, and an electronic copy of all files (including HEC-RAS files)
- Proof of application for all necessary local, state, and/or federal permits
- Letter from appropriate fire protection district
- Verification of legal access (where applicable)
- Traffic control plan drafted by a Traffic Control Supervisor
- A geotechnical investigation report with recommendations or a brief narrative from a geotechnical engineer describing why the report is not needed

FOR FLOODPLAIN DEVELOPMENT PERMIT

- Site Plan(s) at a scale of 1"=50' or larger, stamped by an engineer registered in the State of Colorado, which includes:
 - Property/site location
 - Current effective floodplain and floodway boundary
 - Existing/proposed channel and hydraulic structure locations with elevations
 - Proposed site grading, fill, and dredge locations with elevations
 - Location and elevation of adjacent roads, existing water supply, and sanitation facilities
 - Existing water supply ditches and laterals
- Plan view of the limits of the model flowline (typical valley cross-section[s]) at a scale of 1"=200' or larger, stamped by an engineer registered in the State of Colorado, which includes:
 - Channel(s) and/or flowpath(s)
 - Limits of floodway and floodplain
 - Location to be occupied by the proposed bridge
 - Existing and proposed base flood elevations (BFE) at cross-sections used in hydraulic models
- Existing/proposed floodplain and floodway analysis (HEC-RAS) per Section 4-407(B)(7) including all applicable requirements listed in the Hydraulic Modeling Submittal Guide

FOR BUILDING PERMIT

- Site Plan(s) at a scale of 1"=30' or larger, stamped by an engineer registered in the State of Colorado, which includes:
 - Property/site location
 - Existing/proposed channel locations
 - Existing and proposed grading and hydraulic structure locations, with elevations (where applicable)
 - Location and elevation of adjacent roads, existing water supply and sanitation facilities (where applicable)
 - Existing water supply ditches and laterals
 - Erosion and Sediment Control Plans
 - Adjacent Right-of-Way and roadway facilities (where applicable)

- Structure Design/Building Plans at an appropriate scale for construction, $\frac{1}{4}'' = 1'-0''$, that includes plan, elevations, cross sections and details stamped by an engineer registered in the State of Colorado
- Specifications for construction and materials of bridge, stamped by an engineer registered in the State of Colorado
- Certification Statement Signed by the Design Engineer(s):
"I hereby affirm that the design calculations and plans for the private access bridge at [insert address] were prepared by me, or under my direct supervision, for the owners thereof, in accordance with the requirements of the International Building Code, the Boulder County Land Use Code, the Boulder County Multimodal Transportation Standards, the Boulder County Storm Drainage Criteria Manual, any approved variances and exceptions thereto, and my professional engineering judgment. I understand that Boulder County does not and will not assume liability for facilities, structures, or improvements designed by others".

Registered Professional Engineer [Affix Seal]
State of Colorado No. _____



Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Memorandum

TO: Transportation Department Development Review Team

FROM: Mike Thomas, County Engineer

DATE: August 20, 2015

SUBJECT: Revision to Bridge Rail Requirements for Residential Vehicular Bridges

Be advised that the County Engineer has reviewed the design requirements for vehicular bridges as presented in Section 5.10.1.1 of the Multimodal Transportation Standards (Standards), and has found that the bridge rail requirements in Table 5.10.1.1 are specifically not applicable to private residential access bridges. Therefore, only the bridge rail requirements for vehicular private residential access bridges have been revised to meet a 10 mph crash test level. All other parts of these requirements remain intact. The Standards will reflect the revision at the next update but the Development Review team is directed to begin implementing the revised requirement immediately.

Approved:

A large, stylized handwritten signature in blue ink, written over a horizontal line. The signature is cursive and appears to read "M. Thomas".

Michael A. Thomas, P.E.
County Engineer

A handwritten date in blue ink, "8/25/15", written over a horizontal line.

Date



Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Memorandum

Date: October 1, 2015

From: Mike Thomas, County Engineer 

Subject: Prescriptive Right-of-Way in Canyon Roads

As a result of the 2013 floods, Boulder County is in the process of preparing roadway construction plans for reconstruction of many of our canyon roads. An integral element of the project implementation process in many cases involves obtaining fee simple, temporary construction and/or permanent easements from adjacent property owners. Determining the necessary ROW easement or fee simple acquisition requires first locating our prescriptive Right-of-Way (ROW) in areas where there is currently no defined width of the ROW.

Based on discussions with the County Attorney, Land Officer and a field meeting with several consultants and County Staff, we have determined that the following parameters apply to our County prescriptive ROW:

Prescriptive Right-of-Way Limits:

- Area of the roadway corridor that has been used for road purposes for 20 or more years, plus any additional width needed for support, drainage, maintenance and repair of the road, described as:
 - For the lower or stream side of the road, the narrower of-
 - ◀The toe of slope at the creek interface (the low water surface elevation) or,
 - ◀Edge of embankment that is used to support the roadway.
 - For the upper side of the road-
 - ◀To the top of previously cut rock face or,
 - ◀To the top of previously graded hillside or,
 - ◀To the back side of the roadside ditch
 - Vehicle pull out areas
 - In areas where existing bridges or driveways extend into the ROW, the prescriptive ROW is defined as a straight line connecting the prescriptive ROW on either side of the bridge or driveway.
 - For flood damaged road sections, the prescriptive ROW is the pre-flood location as described above.
- For ROW that requires a metes and bounds legal description, and the ROW is a meandering line, the ROW line shall be a “best fit” line connecting at approximately 20’ intervals, or a distance as is reasonably needed to best describe the prescriptive use.

MHT #01

Trucks Turning Area Shoulder Work

Not Drawn To Scale.
Subject To Field Adjustments.
*All Devices Will
Conform To MUTCD*

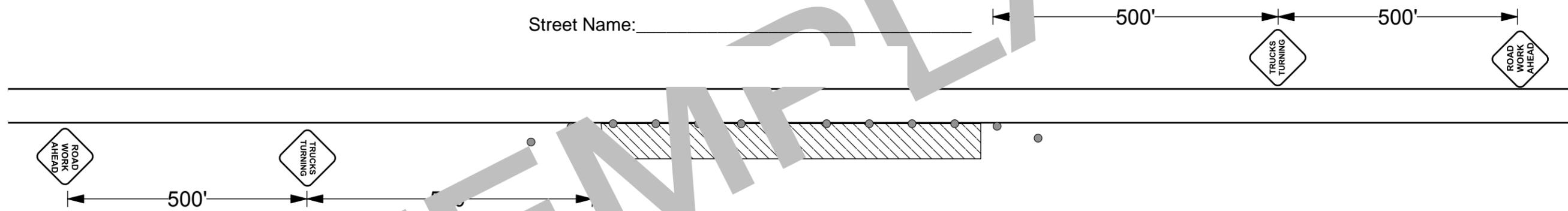
NOTES:

Shoulder Activity may be delineated
from traffic right of way.

Flagger Ahead shall be posted if
flaggers are present.

Legend

-  Delineation Device
-  Work Zone
-  Warning Sign
-  Type I/II/III Barricade
-  Flagger
-  Arrow Board



SUMMARY OF DEVICES

- 2 - Road Work Ahead
- 2 - Trucks Turning
- 15 - Channelizing Device

Consultant:	
Location:	
Contractor:	Contact:
Traffic Control Contractor:	Prepared By:
Date:	Sheet Number: