

CITY OF THORNTON

REQUEST FOR PROPOSALS

FOR

CONTRACTED PAVING

PROJECT NO. 26-23G

NOVEMBER 2026

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III. NOTICE REQUEST FOR PROPOSALS

The City of Thornton, Colorado, (“Thornton”) respectfully requests separate sealed Proposals for **Contracted Paving, Project No. 26-23G** (hereinafter referred to as “Project”). Proposals will be received until **5:00 p.m.**, local time, **December 3, 2025** in the Contract Administration Office, 9500 Civic Center Drive, 2nd Floor City Hall, Thornton, CO 80229-4326.

Physical proposals may also be submitted by mail or courier service;

Sealed Bid Proposals are being solicited only from Contractors Pre-Qualified under Thornton’s Request for Contractor Qualifications for City of Thornton Projects. Specifically, sealed Bids from prime Contractors will only be accepted from the following Pre-Qualified Contractors:

- ABCO Contracting, Inc.
- Alpine Civil Construction Inc.
- American West Construction
- Ames Construction
- Asphalt Specialties
- Brannan Sand and Gravel Company, LLC
- Concrete Express, Inc dba CEI
- Concrete Works of Colorado
- Duran Excavating
- Edge Contracting
- Flatiron Constructors, Inc.
- Goodland Construction
- Hamon Infrastructure
- Harper Brothers Construction, LLC
- Hudick Excavating, Inc dba HEI Civil
- Jalisco International
- KECI Civil Inc.
- Kelley Trucking, Inc.
- Kraemer North America
- Krische Construction, Inc.
- Myers & Sons Construction, LLC
- Reynolds Construction
- Structures Inc.
- WW Clyde, Inc.
- Zak Dirt

Potential subcontractors are requested to direct their Bids to the above prime Contractors and need not be pre-qualified for the Project. Thornton reserves the right to post-qualify subcontractors.

Late Proposals will not be accepted under any circumstances.

Project Description: Thornton is seeking Proposals from Contractors to provide Construction Services for Street Rehabilitation Mill and Pave on a multi-year Agreement. The Services will be performed at various Thornton streets which are determined at the beginning of each program year. Street Rehabilitation Mill and Pave may include, but not limited to:

1. 1” milling;
2. 2 ½” milling;
3. 3” milling;
4. Adjust manhole (ring adjustment);
5. Adjust valve box (ring adjustment);
6. Reset manhole;

7. Reset valve box;
8. Adjust Century Link manholes (ring adjustment, rings supplied);
9. Preformed 48" tall helmeted cyclist symbol (Preformed);
10. Preformed pavement marking (lane lines);
11. Preformed pavement marking (x-walks, stop bars, intersection skips);
12. Preformed thermoplastic pavement marking (arrows, words);
13. Thermoplastic pavement marking (lane lines);
14. Thermoplastic pavement marking (x-walks, stop bars, intersection skips);
15. Glassgrid;
16. 1" HMA (Grade SX) (75) (PG64-22);
17. 2 ½" HMA (Grade SX) (75) (PG64-22);
18. 3" HMA (Grade SX) (75) (PG64-22);
19. 3" HMA Patching (Grade S) (75) (PG64-22);
20. Type 1 78"x78" Asphalt Speed Cushions;
21. Type 2 120"x78" Asphalt Speed Cushions; and
22. Type 3 144"x84" Asphalt Speed Cushions.

Thornton reserves the right to award to multiple Contractors. Nothing herein guarantees any minimum amount of work to any Service Provider. Thornton requires one (1) or more firms to perform. These services may be required by Thornton's Infrastructure, Parks and Open Space, or other Departments. Work under this agreement will be issued and performed under Task Assignments. The Agreement shall terminate on December 31, 2031, unless sooner terminated by Thornton's issuance of a Termination Notice. Rate adjustments may be re-negotiated on an annual basis upon request. Rate adjustments are limited to no greater than the increase in Engineering News Record's current CCI.

COOPERATIVE PURCHASING:

Thornton encourages the proper use of cooperative purchasing and reserves the right to make results of this solicitation available to other governmental agencies seeking like equipment, goods, or services. Other agencies using this solicitation, in agreement with the Service Provider, must do so according to regulations established by their individual organizations and accept sole responsibility for its use. The terms and conditions of any resulting transaction shall be exclusively between the Contractor and the other agencies. Contractor and the other agencies using this solicitation in a cooperative or "piggy-back" fashion, agree to defend and hold harmless Thornton from any dispute or action arising from its use.

Thornton utilizes the City of Thornton Pre-Qualified Solicitation website at <https://solicitations.thorntonco.gov/prequalified> to post official copies of the Request for Proposals ("RFP") for use in preparing Proposals. Proposing firms are required to acknowledge all addenda with their Proposal and are encouraged to view the addenda posted on the website and on the Contract Administration bulletin board prior to submission of a Proposal. Proposing firms that do not acknowledge all addenda may be considered non-responsive. Upon request, the RFP documents, including addenda, are also available for viewing on the City of Thornton Website, <https://solicitations.thorntonco.gov/solicitations> or at the Contract Administration office located on the 2nd floor of City Hall at 9500 Civic Center Drive, Thornton, CO. Proposing firms that do not have download and/or printing capability in-house may contact a commercial reprographics company for assistance with downloading and printing the RFP.

Late Proposals will not be accepted under any circumstances. Any Proposal(s) received after the scheduled time for closing will be returned to the proposing firm unopened. Sole responsibility rests with the proposing firm to see that their Proposal is received on time.

Thornton reserves the right to reject any and all Proposals, in part or in whole, and to award the Project to the most responsive and responsible firm as deemed in the best interest of Thornton; further, the right is reserved to waive any formalities or informalities contained in said Proposal(s).

An optional Pre-Bid Conference to discuss the Project will be conducted via web broadcast with Zoom video at 10:00 a.m., November 12, 2025. All prospective Bidders are encouraged to attend. Prospective Bidders wishing to take part in the Pre-Proposal Conference should e-mail Keith Griess at Keith.griess@ThorntonCo.gov to receive a URL link to access the Zoom Video Pre-Proposal Conference. If possible, please hold all questions concerning the RFP until that time.

Physical proposals shall be submitted in a sealed envelope plainly marked on the outside with proposing firm's name and address and **“Request for Proposals, Contracted Paving, Project No. 26-23G”**. Proposals delivered by mail or courier service shall be in a sealed envelope inserted into a separate mailing envelope. On the outside of the mailing envelope note **“Proposal Enclosed, Contracted Paving, Project No. 26-23G”**.

Any questions concerning this Project shall be directed in writing to Keith Griess, Senior Contract Administrator, E-mail – keith.griess@ThorntonCO.gov, 8:00 a.m. to 5:00 p.m., local time, Monday through Friday, excluding holidays. The deadline for submission of questions is ten (10) Calendar Days prior to the date set for submission of Proposals.

Date First Issued: November 5, 2025

Signed: DocuSigned by:
Dennis Laurita
A459F4EFA8C24E5... _____ Date: 10/31/2025
Dennis Laurita
Contracts Supervisor

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IV. PROPOSAL INSTRUCTIONS AND INFORMATION

Thornton is soliciting written Proposals from qualified firms for **Contracted Paving, Project No. 26-23G**. To be eligible for consideration, the proposing firm must be capable of supplying the services as noted herein, and must also meet all other criteria outlined in this RFP.

A. INQUIRIES AND CORRECTIONS

All inquiries relating to this request shall be addressed in writing to:

City of Thornton
Attn: Keith Griess, Sr. Contract Administrator
9500 Civic Center Drive
Thornton, CO 80229-4326
Fax: 303-538-7556
Email: keith.griess@ThorntonCO.gov

If a proposing firm, subsequent to the Pre-Proposal Conference finds discrepancies in or omissions from the RFP, or should require additional clarification of any part thereof, a written request for interpretation shall be submitted to the Contract Administrator. Any interpretation of or change made to the RFP will be made by written addendum to each proposing firm, and will become part of the RFP and of any Contract awarded. Thornton will not be responsible for the accuracy of any ORAL EXPLANATIONS, INTERPRETATIONS, OR REPRESENTATIONS. All inquiries shall be made in writing and all responses will be provided in writing, with responses being made available to all proposing firms. To be given consideration, inquiries must be received at least ten (10) Calendar Days prior to the date established for the submission of the Proposal. It shall be the responsibility of each proposing firm to verify that every addendum has been received prior to submitting Proposals.

B. SUBMITTAL DATE AND LOCATION

All Proposals must be received at Thornton City Hall, City of Thornton, 9500 Civic Center Drive, 2nd Floor City Hall, Thornton, Colorado 80229-4326 **prior to 5:00 p.m. local time on December 3, 2025**. Physical proposals must be submitted in a sealed envelope plainly marked "**Request for Proposals, Contracted Paving, Project No. 26-23G**", and addressed to the Contracts Manager. Proposing firm's name and address shall also appear on the outside of the sealed envelope containing the Proposal. If the Proposal is sent by U.S. mail or courier service, the Proposal shall be contained in a sealed inner envelope or box, which is then inserted into the mailing envelope or box. Indicate "**Proposal Enclosed, Contracted Paving, Project No. 26-23G**," on the outside of the mailing envelope or box.

C. LATE AND ELECTRONIC PROPOSALS

Late Proposals will not be accepted under any circumstance, and any Proposal so received shall be returned to the proposing firm unopened. In addition, proposals received via electronic devices other than the BidnetDirect.com website (i.e. e-mail) are

not acceptable and will be rejected upon receipt. Proposing firms will be expected to allow adequate time for delivery of their Proposals either by airfreight, postal service, or other means.

D. CONFIDENTIAL AND PROPRIETARY INFORMATION

Prior to Award, any information contained within the Proposal may be held confidential and proprietary by Thornton as solely determined by Thornton. After Award, the information within the Proposal becomes public information with the exception of information that has been clearly marked as confidential and proprietary by the proposing firm. Any information marked confidential shall comply with Colorado's Open Records Act and other applicable statutes. Thornton shall be held harmless from any claims arising from the release of confidential and proprietary information not clearly designated as such by the proposing firm. In general, it is not acceptable to Thornton to mark information other than financial statements, project financing data, litigation history, tax audit history, or client lists as confidential and proprietary. Further, it is not acceptable to mark price proposal information as confidential and proprietary. Failure to adhere to these restrictions may result in the Proposal being deemed non-responsive.

E. DEFINITION, CONTEXT, AND GENDER

Unless otherwise specified in this document, all words shall have a common meaning unless the context in which they are used clearly requires a different meaning. Words in the singular number include the plural, and in the plural include the singular. Additionally, words of the masculine gender include the feminine and the neuter, and when the sense so indicates, words of the neuter gender may refer to any gender.

F. CONDITIONS OF PROPOSAL SUBMITTAL

1. All proposing firms shall comply with all conditions, requirements, and specifications contained herein, with any departure constituting sufficient cause for rejection of the Proposal.
2. The Proposal must be signed by a duly authorized official of the proposing firm submitting the Proposal.
3. No Proposal will be accepted from any person, firm, or corporation that is in arrears for any obligation to Thornton, or that otherwise may be deemed irresponsible or unresponsive by Thornton staff or Thornton City Council.
4. Only one (1) Proposal will be accepted from any person, firm, or corporation. If multiple options are requested or offered, each option must be submitted under a single Proposal and in a single envelope or box.
5. All terms and prices quoted must be firm for a period of sixty (60) Calendar Days from the Proposal submittal date or until Award, whichever is sooner.

- 6. Thornton reserves the right to reject any and all Proposals, or any part thereof. The right is reserved to waive any formalities, or informalities contained in any Proposal, and to award the Project to the most responsive and responsible proposing firm as deemed in the best interest of Thornton.
- 7. All Proposals shall be prepared in a comprehensive manner as to content, but no necessity exists for expensive binders or promotional material.
- 8. All costs, including travel and expenses incurred in the preparation of this Proposal, shall be borne solely by the proposing firm.
- 9. Section 7.4 of the Thornton City Charter prohibits Thornton from entering into any Contracts involving an amount in excess of one hundred dollars (\$100) in which an elective or appointive officer or any member of the officer's family has any pecuniary interest, direct or indirect. Certain other restrictions may also apply to Contracts in which an employee, member of a board or commission, City Council Member or member of same's family has an existing or pending financial or personal interest. For the purposes of this Charter Section, a domestic partner shall be considered a family member. Therefore, the proposing firm shall submit the following declaration contained in Exhibit "1", Acceptance of Conditions Statement, with the Proposal:

No City Council Member, member of a board or commission, Municipal Judge, City Manager, City Attorney, or employee of the City of Thornton, or any such person's family member, domestic partner, or person assuming a relationship being the substantial equivalent of the above, has an existing or pending direct or indirect financial, pecuniary, or personal interest in the proposing firm or this RFP, except as follows: _____

- 10. Thornton reserves the right to negotiate final terms with the selected proposing firm that may vary from those contained in this document.
- 11. Thornton reserves the right to request a client list from the proposing firm, for the purpose of determining potential conflicts of interest. Said list shall be considered proprietary.
- 12. Thornton will not return Proposals, or other information supplied to Thornton, to the proposing firms.

G. EVALUATION OF PROPOSALS

All Proposals will be evaluated by a Project Committee assigned by the City Manager, or their designee. Proposals shall be evaluated on the basis of the Evaluation Criteria noted here-in. Qualifications, experience, and the applicability of solutions offered to meet Thornton's needs will be the major factors determining the selection, with pricing

being secondary. In addition, other pertinent information which becomes available during the evaluation, interview, or negotiations may be considered in the evaluation. The committee may make a selection on the basis of the Proposals received, or may choose to "short list" prospective firms for further consideration, which may include interviews and or negotiations. The firm selected for the Award will be chosen on the basis of the apparent greatest benefit to Thornton, and not necessarily on the basis of lowest price. The City Manager or their designee, shall make the final determination of the firm selected.

H. EVALUATION CRITERIA

Proposal shall be evaluated on the basis of the following criteria:

1. Responsiveness to the needs of Thornton and the degree to which the Proposal meets or exceeds the terms of the RFP as detailed in the proposed means and methods of accomplishing the services, and the scope of services offered. Response times offered in the Proposal shall be given substantial consideration in the evaluation.
2. Responsibility of the proposing firm, including the firm's financial capacity, and its claims and litigation history.
3. Experience of the proposing firm in dealing with municipal or other governmental agencies in projects of similar size, scope, and nature.
4. The proposing firm's engagement team, including the experience and resumes of key personnel to be assigned.
5. Results of reference checks.
6. The proposing firms' billable hourly rates and markup percentages based on the services to be provided.

I. GENERAL REQUIREMENTS OF THE SUCCESSFUL PROPOSING FIRM

1. The successful proposing firm shall enter into an Agreement with Thornton in the form attached hereto as Exhibit 2 and incorporated by reference herein.
2. The successful proposing firm will be required to maintain insurance coverages for the duration of the Agreement period as outlined in Exhibit 2.
3. The successful proposing firm shall be prohibited from assigning or subcontracting the whole, or any part of the Agreement, without the prior written consent of Thornton.

4. The successful proposing firm shall not hire, discharge, promote, demote, or otherwise discriminate in matters of compensation, terms, conditions, or privileges of employment against any person otherwise qualified solely because of race, color, creed, religion, national origin, ancestry, gender, physical or mental disability, or age.
5. The successful proposing firm and its employees will operate as an independent contractor and will not be considered employees of Thornton.

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V. PROPOSAL PREPARATION

- A. Proposals submitted shall contain all information as requested herein, and any additional information necessary to evaluate the overall benefit of the Proposal to Thornton.
1. If your firm is submitting a physical proposal submission and **not** through the Vendor portal of BidNet, then the following items shall also be included:
 - a. One (1) original paper copy of the proposal submission with the proposal stamped as "Original".
 - b. One (1) electronic copy on a flash drive of the proposal submission.

Note: Vendors submitting confidential information shall only submit one (1) copy of such information. If allowed, when submitting electronically through the BidNetDirect.com vendor portal, confidential information shall be submitted in a separate PDF format file and marked confidential in both the file name and on the individual pages. When submitting a physical proposal, confidential information shall be placed in a separate sealed envelope and inserted into the main proposal submittal envelope or box. Any information not marked as confidential will be considered public record.

- B. Proposals shall include the following:
1. A cover letter stating the name, address, and telephone number of the proposing firm, and bearing the signature of the person having the authority to make the Proposal for the firm, and bind the firm in a formal Agreement with Thornton.
 2. An executed Exhibit 1, Acceptance of Conditions Statement, which:
 - a. Affirms the acceptance of all conditions or requirements contained in the RFP;
 - b. Contains acknowledgement of all addenda issued; and
 - c. Lists the names of any of the proposing firms' employees who are family members of Thornton employees, officers, board, or Council Members.
 3. The proposed Exhibit B, Service Provider's Personnel and Subcontractors Listing, which is in Exhibit 2, Agreement, showing all key personnel and subcontractors that are likely to be assigned to perform Work under the Agreement.
 4. The proposed Exhibit C, Schedule of Charges, which is in Exhibit 2, Agreement, containing the billable hourly rates for all personnel proposed for assignment to the Project team, hourly rates for owned equipment proposed for use on the Project, and percent markups to cover insurance, bonds if required, and fee to recover overhead and profit. Also, indicate Unit Prices for the items of Work noted on the Proposal Form. Note that expense categories not identified in the Schedule of Charges will not be reimbursed separately, but are assumed to be

included in the billable hourly rates or the percent markup, whichever is applicable. Reimbursable expenses are reimbursed at cost. The proposed Schedule of Charges will be the sole basis of payment for the successful firm

5. A list of what subtrades, if any, may be subcontracted based on the range of services offered.
 6. An executed Exhibit 3, Reference Authorization and Release Form.
 7. Any other information deemed necessary by the proposing firm.
- C. Submittal of a Proposal shall be taken as prima facie evidence that the Proposer has full knowledge of the scope, nature, quality, and quantity of the Work to be performed, and the detailed requirements and conditions under which the Work is to be performed.

VI. EXHIBIT 1

ACCEPTANCE OF CONDITIONS STATEMENT

A. Proposing firm indicates acceptance of the following conditions:

1. City of Thornton Charter Section 7.4 prohibits Thornton from making Contracts with firms which employ certain relatives of Thornton employees unless the City Council determines that the making of such a Contract is in Thornton's best interest.

No City Council Member, member of a board or commission, Municipal Judge, City Manager, City Attorney, or employee of the City of Thornton, or any such person's family member, domestic partner, or person assuming a relationship being the substantial equivalent of the above, has an existing or pending, direct or indirect, financial, pecuniary or personal interest in the proposing firm or this Request for Proposal, except as follows (list, if any, or if none so state): _____

2. I/we hereby agree to all instructions, terms and conditions, and specifications contained herein.

B. I/we acknowledge the following addenda (list, if any, or if none so state): _____

Proposing Firm Name: _____

Address: _____

Telephone Number: _____

Submitted By: _____

(Signature)

Title: _____

Date: _____

Attest (by officer if corporation) or Notary (if individual): _____

My Commission Expires (if notarized): _____

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VII. EXHIBIT 2

GENERAL SERVICE AGREEMENT

This General Service Agreement is made and entered into this ____ day of _____, 20____, (“Effective Date”) by and between the **City of Thornton**, a Colorado home rule municipality, in the state of Colorado (hereinafter, “Thornton”) and _____ (the “Service Provider”). Thornton and Contractor hereafter may be referred to collectively as, the “Parties” or individually as the “Party.”

I. RECITALS

- A. Thornton has determined that over the term of this Agreement, from time to time, the need will exist for the provisioning of certain services in connection with Contracted Paving, Project No. 26-23G (the “Project”);
- B. Thornton sought and solicited to prequalify a number of vendors (“Service Providers”) for the letting of certain services it needs performed on an on-call, as-needed basis;
- C. Contractor represents, having responded and being prequalified for the provisioning of its services that Thornton needs, it is ready, willing and available when called upon to perform;
- D. Contractor further represents it has the requisite skills, knowledge, expertise and experience to perform the services Thornton needs and requires during the term of this Agreement;
- E. Contractor further understands this Agreement does not guarantee or promise any work to Service Provider, and Thornton has no obligation to issue a Task Assignment to Contractor for any work nor does this Agreement create any exclusive right to perform any services and Thornton may hire other Service Providers to perform the kinds of services performed by Service Provider.

For good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

II. TERMS & CONDITIONS

- A. **Project Description.** Thornton requires Contractor to provide Paving Services. These Services may be required for routine scheduled yearly maintenance or scheduled Projects.
- B. **Scope of Services.** Upon receipt of a written Notice to Proceed from Thornton and subject to Task Assignments issued by the City from time to time thereunder, Contractor will furnish all of the labor, supplies and materials, equipment, and any other facilities or resources required to perform and complete the work authorized

by the Notice to Proceed and Task Assignment, and as more fully described in the attached Exhibit A, Service Provider's General Scope of Work, hereafter also called, "Scope of Work" the "Work" or "Services."

C. **Commencement Date, Term.**

1. This Agreement shall commence on the Effective Date above and shall terminate on December 31, 2031, unless terminated earlier by Thornton pursuant to the terms of this Agreement.
2. After the First Term, this Agreement renews for another Term ("Renewal Term") on its Effective Date up to and until the last Renewal Term's termination date referenced in subsection C.1. above, using the same Schedule of Charges as set forth in the attached Exhibit C, unless changed in accordance with subsection G.3 herein, and the terms and conditions of this Agreement shall continue to apply to each Renewal Term.
3. Notwithstanding the foregoing, if a Notice to Proceed for Work has been issued to Contractor by Thornton, and the Work will not be completed by the date of termination, Thornton, at its reasonable discretion, may direct Contractor to complete the Work, and the terms and conditions of this Agreement shall survive until the Work is complete to Thornton's satisfaction.

D. **Task Assignment.**

1. This Agreement provides the master terms that apply to all Services for which Thornton engages Contractor to perform on or after the date of this Agreement.
2. Thornton shall give a written assignment to the Contractor to perform the specified Task Assignment as authorized by each Task Assignment issued in accordance with this Agreement. A Task Assignment shall be established by Thornton issuing a Purchase Order.
3. Except for the limitations set forth in this Agreement, Contractor understands there is no limit on the number of Task Assignments that may be issued by Thornton.
4. Any Task Assignment issued during the term of this Agreement and not completed before the term expires or terminates, shall be completed within the time specified in the Task Assignment.
5. The total compensation for any Task Assignment may be subject to a Not-to-Exceed ("NTE") amount as provided for in **Exhibit C, Schedule of Charges**, which by this reference is incorporated into the Agreement.

6. This Agreement does not guarantee any work to the Contractor and Thornton has no obligation to issue a Task Assignment to Contractor for any Services nor does this Agreement create any exclusive right to perform any Services and Thornton may hire others to perform the kinds of Services that Contractor performs.

E. Contract Documents.

1. The following documents, by this reference, are incorporated, verbatim, and will hereafter be, the Agreement:
 - a. All executed Amendments to this Agreement;
 - b. Task Assignments and Purchase Orders;
 - c. The General Service Agreement; and
 - d. Exhibits:
 - i. **Exhibit A Service Provider's General Scope of Work;**
 - ii. **Exhibit B Service Provider's Key Personnel and Subcontractors Listing;**
 - iii. **Exhibit C Schedule of Charges;**
 - iv. **Exhibit D MGPEC PAVEMENT DESIGN STANDARDS 8 CONSTRUCTION SPECIFICATIONS**
 - v. **Exhibit E Special Conditions, if any;**
 - vi. **Exhibit F General Conditions;**
 - vii. **Exhibit G Labor And Material Payment Bond; and**
 - viii. **Exhibit H Performance Bond.**
2. In the event there is a conflict between any of the above-listed documents, the provisions of the document listed first in order shall govern over those documents listed in descending order in subparagraph E.1 after the first listed document.

F. Personnel.

1. Contractor shall perform the Services with the employees, subcontractors, agents and all other persons ("Personnel") identified in the attached **Exhibit B**, unless otherwise authorized in writing by Thornton.

2. Contractor shall employ competent Personnel at all times during the performance of the Work. Contractor shall be responsible for acts and omissions of its Personnel working for Service Provider. Contractor shall enforce strict discipline and good order among its Personnel performing the Work.
3. Contractor shall have a person in charge. The person in charge shall represent Contractor and communications given to the person in charge shall be as binding as if given to Service Provider. Important communications will be confirmed in writing. Other communications shall be similarly confirmed on written request.
4. Thornton, at any time, may revoke its approval of any person who is not performing in a manner satisfactory to Thornton, and Contractor shall remove the objectionable person from the Work and replace them with someone acceptable to Thornton.

G. **Compensation.**

1. **Remuneration.** In consideration for the completion of the Work by Service Provider, Thornton will pay Contractor in accordance with the attached **Exhibit C** to perform the Scope of Work as set forth in the Task Assignment. The total compensation for a given Task Assignment may be subject to a Not-to-Exceed amount as provided for in **Exhibit C**. Upon mutual agreement of the Parties, a NTE amount may be converted to a lump sum fee.
2. **Invoicing.** Compensation shall be due and payable thirty (30) Calendar Days after date of receipt by Thornton of a complete and correct Application for Payment or invoice. The Application for Payment and invoicing requirements are in the attached **Exhibit A**. Each Application for Payment or invoice shall include the following information:
 - a. Thornton's Purchase Order number;
 - b. Dates and times of Services performed;
 - c. Location of the Services performed;
 - d. The name of the Thornton Representative who authorized each Task Assignment; and
 - e. An itemized description of all Services performed, including new materials installed.

No Work for any Task Assignment shall be performed without a Purchase Order issued to Contractor by Thornton. Thornton reserves the right to withhold final payment until the Work for a given Task Assignment is complete.

3. Billable Rates. The billable rates in **Exhibit C** shall remain fixed for, at a minimum, the initial twelve (12) month term (“First Term”). Contractor may request an increase to the Billable Rates after the First Term and any subsequent Term provided Thornton has been given written notice a minimum of sixty (60) Calendar Days before the commencement of the next Term. Under no circumstances will any Billable Rate increase exceed the inflation rate as defined by the current ENR CCI and published by the Bureau of Labor Statistics or as agreed to in writing by Thornton. The revised Billable Rates shall only be effective by written Amendment of this Agreement executed by Thornton.

H. **Changes to Service Provider’s Scope Of Work, Terms, Or Conditions.**

1. A change in Service Provider’s Scope of Work is any change or amendment of Work that is different from, or in addition to either Service Provider’s General Scope of Work as defined in **Exhibit A** of this Agreement or the specific Task Assignment.
2. No such change, including any additional compensation, shall be effective or paid unless authorized by a Purchase Order or written amendment executed by the Thornton City Manager (“City Manager”) or City Manager’s designee(s). If Contractor proceeds without such written authorization, then Contractor shall be deemed to have waived any claim for additional compensation, including a claim based on the theory of unjust enrichment, quantum meruit, or implied contract.
3. Except as expressly provided by this Agreement, no agent, employee, or representative of Thornton has the authority to change or modify - directly or by an implied course of action, the Scope of Work or a specific Task Assignment. Any change made to the Contract Documents, Task Assignment or this Agreement shall be in accordance with the attached **Exhibit E**.

I. **Compliance with All Laws and Regulations.**

1. All of the Work performed under this Agreement by Contractor shall comply with all applicable laws, rules, regulations, and codes of the United States and the State of Colorado and with the charter, ordinances, and rules and regulations of Thornton.
2. Service Provider’s attention is directed to the fact that all applicable state and federal laws, county and city ordinances, licenses and regulations of all authorities having jurisdiction over this Agreement and the Work shall apply to this Agreement throughout and they will be deemed to be included in this Agreement the same as though herein written out in full.

III. MISCELLANEOUS TERMS

A. **Indemnification.** To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold harmless Thornton, its officers, agents and employees, from and against all liability, judgments, damages or losses (“Claims”) which arise out of, result from, or are in any manner connected with the Work to be performed under this Agreement. To the extent it is determined such Claims were caused by the negligent acts, errors, or omissions of Service Provider, and/or its Subcontractors, officers, employees, agents or anyone else for whose acts they may be liable for, Contractor will pay the expenses Thornton incurred because of such Claims including, but not limited to, court costs and reasonable attorneys’ fees incurred in defending or investigating such Claims. Such payments on behalf of Thornton shall be in addition to any and all other legal remedies available to Thornton and shall not be considered Thornton’s exclusive remedy.

B. **Insurance.** Contractor agrees to procure and maintain in force during the term of this Agreement, at its own cost, the following coverages:

1. **Workers' Compensation Insurance.** Workers' compensation insurance as required by the Labor Code of the State of Colorado and Employer's Liability Insurance. Evidence of qualified self-insured status may be substituted.

2.	<u>Commercial General Liability Insurance</u>	(MINIMUM LIMITS)
a.	Each Occurrence	\$2,000,000
b.	Products/Completed Operations Aggregate	\$2,000,000
c.	Personal and Advertising Injury	\$2,000,000
d.	General Aggregate	\$4,000,000

The policy shall include coverage protecting against bodily injury, property damage, and personal injury claims arising from the exposures of (i) premises-operations; (ii) products and completed operations including materials designed, furnished, and/or modified in any way by Service Provider; (iii) independent subcontractors; (iv) contractual liability risk covering the indemnity obligations set forth in this Agreement; and (v) where applicable, liability resulting from explosion, collapse, or underground exposures. The coverage shall not exclude faulty workmanship as a covered occurrence.

If the above insurance is written on a claims-made form, it shall continue for three (3) years following termination of this Agreement. The insurance shall provide for a retroactive date of placement prior to or coinciding with the effective date of this Agreement.

3. Automobile Liability Insurance. Automobile liability insurance with minimum combined single limits for bodily injury and property damage of not less than one million dollars (\$1,000,000) for any one (1) occurrence. This insurance will insure against bodily injury and/or property damage arising out of Service Provider’s operation, maintenance, use, loading or unloading of any auto including owned, non-owned, hired, and employee autos.

4. Professional Liability Insurance **(MINIMUM LIMITS)**
 - a. Each Claim \$2,000,000
 - b. Aggregate \$2,000,000

Should Contractor be required to perform any architectural, engineering, surveying, or other professional services requiring a professional seal for the purposes of obtaining necessary permits, Contractor shall maintain Professional Liability Insurance covering errors and omissions arising out of the Work performed by Service Provider, or anyone employed by Service Provider, or anyone for whose acts, mistakes, errors and omissions Contractors legally liable, with a liability insurance limit of two million dollars (\$2,000,000) each claim and two million dollars (\$2,000,000) unimpaired liability limit for all claims. If Contractor subcontracts for such professional services, the Subcontractor shall be required to provide Professional Liability coverage as stipulated herein.

Professional Liability coverage specifically for Architects, Engineers, and Surveyors shall contain contractual liability insurance covering the contractual obligations of this Agreement. In the event the Professional Liability Insurance policy is written on a “claims-made” basis, coverage shall extend for three (3) years from the date of final payment on any given Task Assignment, and Contractor shall be required to submit Certificates of Insurance evidencing proper coverage is in effect as required above. Contractor shall require all Sub-Service Providers or Subcontractors to maintain the same Professional Liability Insurance.

Any Professional Liability coverage provided by Contractor shall specifically delete any design-build or similar exclusions that could compromise the effectiveness of the coverage. Such policies shall be provided prior to the commencement of any professional services hereunder. The insurance shall provide for a retroactive date of placement prior to or coinciding with the effective date of the Notice to Proceed for the Task Assignment requiring the Professional Liability Insurance.

5. Additional Insured. Contractor shall name Thornton, its officers, agents, and employees as additional insureds with respect to the Commercial General Liability, Auto Liability and, if required, Builder’s Risk and Installation Floater coverages above.

6. Certificates of Insurance. A Certificate of Insurance shall be completed and forwarded along with the Additional Insured Endorsement to Thornton by Service Provider's Insurance Agent(s) as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect and shall be subject to review and approval by Thornton **prior to commencement of any Work under this Agreement.** The initial completed Certificate of Insurance and Additional Insured Endorsement shall be sent to:

City of Thornton
Keith Griess, Contract Administrator
9500 Civic Center Drive
Thornton, CO 80229-4326

Subsequent Certificates of Insurance indicating renewal of coverage(s) shall be sent to Thornton's Risk Manager at certificatesofinsurance@ThorntonCo.gov no later than thirty (30) Calendar Days prior to the expiration date. Indicate "Renewal COI" in the email subject line. Thornton reserves the right to request and receive a certified copy of any policy and any endorsement thereto. Contractor agrees to execute any and all documents necessary to allow Thornton access to any and all insurance policies and endorsements pertaining to this particular Project.

7. Failure to Insure. Failure on the part of Contractor or subcontractor to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of Agreement upon which Thornton may immediately terminate this Agreement, or at its discretion, Thornton may procure, or renew any such policy, or any extended reporting period thereto, and may pay any and all premiums if required, and all monies so paid by Thornton shall be repaid by Contractor to Thornton upon demand, or Thornton may offset the cost of the premiums against any monies due to Contractor from Thornton.
8. Other Insurance Requirements.
- a. Contractor shall cause any Subcontractor to procure and maintain adequate levels of insurance coverage for Workers' Compensation, Commercial General Liability, Automobile Liability, and other coverages Contractor may require. For Commercial General Liability and Automobile Liability insurance of any subcontractor, Thornton will be named as an additional insured. Contractor shall prepare a schedule of required coverages for each of its Subcontractors and shall submit such schedule to Thornton prior to any Subcontractor commencing any Work on a Task Assignment under this Agreement. Such coverages for any Subcontractors shall be procured and maintained with forms and insurers acceptable to Thornton. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Service Provider.

- b. Contractor shall procure and maintain the minimum insurance coverages listed herein. Such coverages shall be procured and maintained with forms and insurers acceptable to Thornton. All coverages shall be continuously maintained to cover all liability, claims, demands, and other obligations assumed by Contractor pursuant to this clause. The coverage shall not exclude faulty workmanship as a covered occurrence. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.
- c. Other insurance with varying limits which from time to time may reasonably be required by the mutual agreement of Thornton and Contractor against other insurable hazards relating to the Work to be done.
- d. Every policy required above shall be primary insurance and any insurance carried by Thornton, its officers, or its employees shall be excess and not contributory insurance to that provided by Service Provider. Contractor shall be solely responsible for any deductible losses under the policies required above.
- e. Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Agreement by reason of its failure to procure and maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.
- f. All policies shall include a provision that the coverages afforded under the policies shall not be canceled, terminated, or materially changed prior to the natural termination date until at least thirty (30) Calendar Days prior written notice has been sent to Thornton. The Certificate(s) shall indicate the form used, if any, under which this provision is included.

C. **Governmental Immunity.** The Parties hereto understand and agree that Thornton, its officers, and its employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, C.R.S. 24-10-101 et seq., as from time to time amended, or otherwise available to Thornton, its agents, officers, or employees.

D. **Independent Contractor.**

- 1. It is understood and agreed by and between the Parties that the status of Contractor shall be that of an independent contractor and of a person retained on a contractual basis to perform professional or technical services

for limited periods of time and it is not intended, nor shall it be construed, that Contractor is an employee or officer of Thornton under Chapter VII of the City Charter, or Chapter 54 of the City Code, or for any purpose whatsoever.

2. Without limiting the foregoing, the Parties hereby specifically acknowledge that **Contractor** or any employee, agent or sub-contractor of Contractor **is not entitled to unemployment insurance benefits unless unemployment compensation coverage is provided by Contractor or some other entity besides Thornton, that Contractor is not entitled to Workers' Compensation benefits from Thornton and that Contractor is obligated to pay federal and state income tax on any monies earned pursuant to this Agreement.** The Parties further acknowledge that the provisions of this paragraph are consistent with Service Provider's insurance obligations that are set forth in this Agreement.

E. **Grounds for Termination.** Thornton may issue a written Notice of Intent to Terminate for the reasons that follow:

1. **Termination for Convenience.** In the event this Agreement is terminated for convenience, Contractor shall not be entitled to profit or overhead on uncompleted Work. Thereafter, Thornton shall pay Contractor for all Work previously authorized and completed prior to the date of the Notice of Termination.
2. **Termination for Cause\Default.** If Contractor has substantially or materially breached the terms of this Agreement, or Thornton declares Contractor is in "Default," in accordance with **Exhibit E**, shall be cause to terminate this Agreement and Thornton may seek to exercise all available legal and/or equitable remedies.
3. **Termination for Non-Appropriations.** In the event that the Thornton City Council fails to appropriate funds for the continuation of this Agreement for any fiscal year past the initial year, Thornton may, at the beginning of the fiscal year for which the City Council does not appropriate such funds and upon prior written notice as provided for, may terminate this Agreement without penalty and be released of further obligations.

F. **Venue / Law / Statute of Limitations.** This Agreement shall be governed by the laws of the State of Colorado, notwithstanding its choice of law principles. Any legal action concerning the provisions hereof shall be brought in the District Court, County of Adams, State of Colorado. Any action arising out of or relating to the Agreement or the Services asserted by Contractor against Thornton shall be brought within two (2) years from when the action accrued, pursuant to C.R.S. § 13-80-102(h).

G. **Notice.** Any notice or communication between Contractor and Thornton which may be required, or which may be given, under the terms of this Agreement shall be in writing, and shall be deemed to have been sufficiently given when directly presented or sent pre-paid, first class, United States mail, addressed as follows:

THORNTON: City of Thornton
Contracts Supervisor
9500 Civic Center Drive
Thornton, CO 80229-4326

SERVICE PROVIDER: _____

H. **Assignment.**

1. Contractor agrees not to assign, pledge, or transfer its duties and rights in this Agreement, in whole or in part, without first obtaining the written consent of the City Manager or City Manager’s Designee(s).
2. Contractor shall not assign all or any part of the Agreement or any monies due or becoming due without the written consent of Thornton and Service Provider's Surety. A copy of the consent of the Surety, together with a copy of the assignment, shall be filed with Thornton. If Contractor assigns all or any part of any monies due or to become due under the Contract, the instrument of assignment shall contain a clause to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to Contractor under the Agreement shall be subject to prior claims and liens of all persons, firms and corporations for services rendered; for the payment of all Materials and Equipment furnished; for payment of all Construction Equipment used or rented in the performance of the Work; and for the payment of any liens, claims, or amounts due federal, state, or local governments or any of their special enterprises.

I. **No Waiver of Rights.** No assent, expressed or implied, to any breach of any one (1) or more of the terms and conditions of this Agreement shall be deemed to be or taken to be by Thornton a waiver of any subsequent breach of such terms and conditions.

J. **Inspection of Records.** In connection with the Work performed hereunder, Thornton and any of its duly authorized representatives shall have access to all of Service Provider’s books, documents, papers, and any other records of Contractor that relate to the Work. Contractor further agrees that such records shall contain information concerning the personnel who performed the Work, the specific Work they performed and the hours they worked. Contractor shall retain these records for three (3) years after the termination date of this Agreement.

- K. **Conflict of Interest.** Contractor agrees that it and its subsidiaries, affiliates, subcontractors, principals, or employees shall not engage in any transaction, activity, or conduct which would result in a conflict of interest. Contractor represents that it has disclosed any and all current or potential conflicts of interest. A conflict of interest shall include transactions, activities, or conduct that would affect the judgment, actions, or Work of Contractor by placing Service Provider's own interests, or the interest of any party with whom Contractor has a contractual arrangement, in conflict with those of Thornton. Thornton, in its sole discretion, will determine the existence of a conflict of interest and may terminate this Agreement in the event such a conflict exists after it has given Contractor written notice which describes the conflict. Contractor shall have twenty (20) Calendar Days after the notice is received to eliminate or cure the conflict of interest in a manner acceptable to Thornton.

- L. **Coordination of Services.** Contractor shall fully coordinate its Work with other service providers, contractors, or other entities performing work, which interfaces with or is affected in any way by Service Provider's Work and with any interested City or other governmental agencies.

- M. **Non-Discrimination.** Service Provider, its agents, employees, and subcontractors shall not discriminate on the basis of race, color, creed, national origin, ancestry, age, gender, religion, or mental or physical disability in any policy or practice.

- N. **Advertising and Public Disclosures.** Contractor shall not include any reference to this Agreement or to Work performed hereunder in any of its advertising or public relations materials without first obtaining the written approval of the City Manager or City Manager's designee.

- O. **Time Is Of The Essence.** The Parties agree that in the performance of the terms and conditions of this Agreement by Contractor that time is of the essence.

- P. **Inurement.** The rights and obligations of the Parties herein set forth shall inure to the benefit of and be binding upon the Parties hereto and their respective successors and assigns permitted under this Agreement.

- Q. **Headings.** The headings contained in this Agreement are for reference purposes only and shall not in any way affect the meaning or interpretation of this Agreement.

- R. **Joint Venture.** If a Joint Venture, participants shall be jointly and severally liable to Thornton for the performance of all duties and obligations of Service Provider, which are set forth in this Agreement.

- S. **Taxes and Licenses.** Contractor shall promptly pay, when they are due, all taxes, excises, license fees, and permit fees of whatever nature applicable to Work which it performs under this Agreement, and shall take out and keep current all required municipal, county, state, or federal licenses required to perform this Work. Contractor shall furnish Thornton, upon request, duplicate receipts or other satisfactory evidence showing or certifying to the proper payment of all required licenses and taxes.

Contractor shall promptly pay, when due, all bills, debts, and obligations it incurs performing Work under this Agreement and to allow no lien, mortgage, judgment, or execution to be filed against land, facilities, or improvements owned by Thornton.

- T. **Severability.** In the event any of the provisions, or the application of any provisions of this Agreement are held to be unenforceable or invalid by any court of competent jurisdiction, the validity and enforceability of the remaining provisions, or applications thereof, shall not be affected.
- U. **No Third Party Beneficiaries.** The enforcement of the terms and conditions of this Agreement and all rights of action relating to such enforcement, shall be strictly reserved to Thornton and Contractor and nothing contained in this Agreement shall give or allow any such claim or right of action by any other or third person on such Agreement. It is the express intention of Thornton and Contractor that subcontractors and any other persons other than Thornton or Contractor receiving any benefits from this Agreement shall be deemed incidental beneficiaries only.
- V. **Electronic Signatures and Electronic Records.** The Parties consent to the use of electronic signatures. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the Parties in the manner specified by any applicable City regulation, rule, and/or ordinance. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.
- W. **Entire Agreement.** The Parties acknowledge and agree that the provisions contained in this entire Agreement and that all representations made by any officer, agent, or employee of the respective Parties unless included herein are null and void and of no effect. No alterations, amendments, changes, or modifications to this Agreement, except those, which are expressly reserved herein to the City Manager or City Manager's designee, shall be valid unless they are contained in an instrument that is executed by all the Parties with the same formality as this Agreement.

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This Agreement is expressly subject to and will not become effective or binding on Thornton until it is fully approved and executed by Thornton.

APPROVED AS TO LEGAL FORM:
FOR: Tami Yellico, City Attorney

CITY OF THORNTON, COLORADO:

By: _____
_____, _____ City Attorney

Kimberly Newhart
Finance Director

ATTEST:

CITY OF THORNTON, COLORADO:

Kristen N. Rosenbaum, City Clerk

Sean Saddler, PE
Support Services Director

ATTEST FOR FIRM SIGNATURE: (If corporation)	FIRM NAME ALL CAPS:
_____ Signature	_____ Signature
_____ Print Name	_____ Print Name
_____ Title	_____ Title

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EXHIBIT A

SERVICE PROVIDER'S GENERAL SCOPE OF WORK

- A. **General Scope of Work.** Thornton requires Contractor to provide Paving Services on an on-call, as-needed basis. For non-emergency Services, Contractor shall perform the Work in accordance with each specific Task Assignment's Scope of Work ("SOW") issued by Thornton. The required services may include and be for, routine maintenance, a specific project or for urgent or emergency services.

Contractor shall work with Thornton's Representative to determine what Services are required at the time of specific Task Order. The Contractor shall Work directly with Thornton's Representative as requested in carrying out and conducting all of the duties and responsibilities during the term of this Agreement. Thornton's Representative may give direction to Contractor as to what Services shall be performed.

- B. **Description of Work.** Contractor shall provide all labor, management, supervision, materials, parts, equipment, and transportation necessary to provide Paving Services as may be required.

Contractor shall be able to provide, at a minimum, these Services. The Work will be done at various city streets throughout Thornton. Street rehabilitation may include, but not be limited to:

1. 1" milling;
2. 2 ½" milling;
3. 3" milling;
4. Adjust manhole (ring adjustment);
5. Adjust valve box (ring adjustment);
6. Reset manhole;
7. Reset valve box;
8. Adjust Century Link manholes (ring adjustment, rings supplied);
9. Preformed 48" tall helmeted cyclist symbol (Preformed);
10. Preformed pavement marking (lane lines);
11. Preformed pavement marking (x-walks, stop bars, intersection skips);
12. Preformed thermoplastic pavement marking (arrows, words);
13. Thermoplastic pavement marking (lane lines);
14. Thermoplastic pavement marking (x-walks, stop bars, intersection skips);
15. Glassgrid;
16. 1" HMA (Grade SX) (75) (PG64-22);
17. 2 ½" HMA (Grade SX) (75) (PG64-22);
18. 3" HMA (Grade SX) (75) (PG64-22);
19. 3" HMA Patching (Grade S) (75) (PG64-22);
20. Type 1 78"x78" Asphalt Speed Cushions;
21. Type 2 120"x78" Asphalt Speed Cushions; and
22. Type 3 144"x84" Asphalt Speed Cushions.

Contractor shall be required to remove and dispose of all waste from the Work site. Handling and disposal of all waste shall be conducted by the Contractor according to all most recent federal, state, and local health and environmental regulations.

C. Task Authorization Procedure.

Thornton may assign work that requires response by the Contractor as negotiated in the schedule development phase of the Work. Thornton will develop a specific Scope of Services for each given Task Order prior to the commencement of Work on that assignment. The scope may include a written description of the Services, sketches, drawings, and/or technical specifications.

Prior to commencement of Work, Thornton and the Contractor shall review all Task Order Scopes of Service to assure all Parties that the scope and role of each Party is thoroughly defined. Scope shall address the physical features of the Task Order, the timeframe for completion of the Work, any necessary phasing, any required permits (such as NPDES, traffic control, etc.), and at a minimum, shall include a written description of the Work to be done, but shall include sketches or engineering drawings when appropriate.

D. Assignment of Scope of Work.

Except in the case the scheduled Work has a predetermined SOW, Thornton will develop a specific SOW for each given Task Assignment before the assigned Work begins. The SOW may include written description of the Work, sketches, drawings, and/or technical specifications.

E. Invoices and Applications for Payment. Charges shall comply with **Exhibit C, Schedule of Charges**. For any Services required by Thornton in or on Thornton owned property, or in or on non-Thornton' owned property which Thornton is responsible to pay, Contractor shall provide a detailed Invoice or Application for Payment necessary to complete the work for each Task Assignment. An invoice may be used for a smaller Task Assignment that requires less than one (1) month to complete, or for routine, scheduled maintenance. Applications for Payment must be used for complex Work that requires more than one (1) month to complete. Applications for Payment shall be submitted on forms provided by Thornton. Invoices may be on the Service Provider's standard form.

Documentation of the costs acceptable to Thornton as defined in **Exhibit C** shall be attached to each of Service Provider's invoices or Applications for Payment.

All Invoices or Applications for Payment shall at a minimum include the following:

- Thornton's Purchase Order Number;
- Dates and times of Services performed;
- Location of the Services performed;

- The name of the Thornton Representative who authorized each Task Assignment; and
- An itemized list of all Services performed.

F. **Compensation Methods.**

1. **Time & Material (“T&M”) Billing.** Invoices or Applications for Payment based on T&M compensation shall include the following additional information:
 - Hours for all Service Provider’s personnel who performed work during the pay period;
 - Billable hourly rates for all personnel from **Exhibit C**;
 - Subcontractor costs during the pay period, if any, as evidenced by their bids and invoices;
 - Itemization of Material and Equipment costs during the pay period as evidenced by the invoices for such items;
 - The summation of the labor, Material, and Equipment costs incurred during the pay period;
 - Markup percentages from **Exhibit C** applicable for Insurance, Overhead and Profit, and Bonds if required, and the resulting total markups to be applied to the summation of the costs;
 - Total price due for the pay period, which is the summation of the labor, Material, and Equipment costs plus the markups;
 - Amount of retainage to be withheld by Thornton, if applicable; and
 - Any other information Thornton deems necessary to substantiate the charges invoiced.
2. **Unit Price Billing.** Invoices or Applications for Payment based on Unit Price compensation shall include the following additional information:
 - Description of the Work items provided;
 - Unit Prices and Units of Measure from **Exhibit C** for the Work items;
 - Quantity of Work provided based on the Units of Measure during the pay period;
 - Extended price for each item during the pay period;
 - Total Price, which is the sum of Extended Prices, due for the pay period; and
 - Amount of retainage to be withheld by Thornton, if applicable.
3. **Lump Sum Billing.** Invoices or Applications for Payment based on Lump Sum compensation shall include the following additional information:
 - If a Schedule of Values was utilized in the Lump Sum Quote or Bid, an itemized list of the Work activities performed for the Task Assignment based on the Schedule of Values;
 - The Lump Sum Prices associated with each activity on the Schedule of Values;

- The value earned for each activity during the pay period, which is the Lump Sum Price for the activity multiplied by the percent complete, during the pay period;
- The total value earned, which is the sum of the value earned for each activity for the pay period; and
- Amount of retainage to be withheld by Thornton, if applicable.

G. Price Adjustments for Asphalt Cement:

Asphalt Cement Cost Adjustments. Contract price adjustments will be made to reflect increases or decreases in the price of asphalt cement from that in effect during the month in which Proposals were received for this Agreement.

1. Price adjustments will be based on the past year asphalt cement price index established on the first of each year. The index will be the spot price per barrel of Western Canadian Select (WCS) as published on <http://www.encana.com/doingbusiness/crudeoilpricing/index.htm> for the first working day of every month. The index from this source will be converted to US Dollars using the currency converter at <http://finance.yahoo.com/currency> by converting the posted price of Canadian Dollars per cubic meter of WCS on Encana.com to US Dollars per cubic meter. A conversion factor of **0.89 cubic meter per Ton** will be used to convert the posted price from cubic meter to **tons**. The converted index number will be posted on the Colorado Department of Transportation website at:

<http://www.dot.state.co.us/DesignSupport/Construction/Fuel%20Cost%20Adjustments/EnCana%20Asphalt%20Cement%20Cost%20Adjustments/Asphalt%20Cement%20Cost%20Adjustment%20Index.htm>

2. Price adjustments will be made on a yearly basis with the following conditions:
 - a. Price changes will be based on the pay items containing asphalt cement.
 - b. A price adjustment will be made only when the asphalt cement price index varies by more than eight percent (8%) from the asphalt cement price index at the beginning of each year, and only for that portion of the variance in excess of eight (8) percent. Price adjustments may be either positive or negative changes to the Unit Prices.
 - c. Asphalt cement cost adjustments will not be made for the initial Agreement year.

3. Adjustment formula:

EP greater than BP:

$$ACCA = (EP - 1.05 BP) (PA) (Q)$$

EP less than BP:

$$ACCA = (EP - 0.95 BP) (PA) (Q)$$

Where:

BP = Asphalt Cement price index for the previous Agreement year.

EP = Asphalt Cement price index for the current year established on January 1, of that year.

ACCA = Asphalt Cement Cost Adjustment

PA = Percent of the paving mixture that is asphalt cement. Asphalt Cement content will be determined by the weighted average of all asphalt cement content percentages obtained from the field acceptance tests for that item (Use decimal in formula, e.g.: 0.05.). If Reclaimed Asphalt Pavement (RAP) is used, the percent of Virgin Asphalt Cement added to the mix will be determined by subtracting the percent of asphalt cement in the Reclaimed Asphalt Pavement (RAP) from the percent of asphalt cement in the mix.

4. The asphalt cement cost adjustment will be the sum of the individual adjustments for each of the pay items containing asphalt cement. No adjustment will be made for asphalt cement costs on items other than those established in the initial year of this Agreement.
5. Asphalt Cement cost adjustments, whether increases or decreases, will be reconciled with an amendment to the Agreement,
6. At no time shall the asphalt cement price index from the previous year (BP) increases by fifty percent (50%) or more over the asphalt cement price index for the current year (EP),

H. **Submission of Invoices and Applications for Payment.** Invoices, including all documentation, may be scanned and emailed to ap.invoices@ThorntonCo.gov. Alternatively, a hard copy may be mailed to the attention of Accounts Payable.

Applications for Payment shall be submitted directly to Thornton's project manager assigned to the specific Task Assignment. Thornton reserves the right to request any additional backup information deemed necessary to substantiate the Service Provider's (or it's Subcontractors') invoiced costs prior to release of payment for the invoiced services.

- I. **Compliance with Federal, State and Local Regulations, Rules and Standards.**
All Work shall be conducted according to all most recent federal, state, and local regulations. Contractor is responsible for obtaining any necessary permits and licenses required to perform Work. All employees and/or subcontractors of the Contractor shall be trained and adequately qualified and/or certified to efficiently, effectively, and lawfully execute the services being rendered.

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EXHIBIT C

SCHEDULE OF CHARGES

- A. **Compensation Methods.** Depending on the nature of the Work required, Contractor may be compensated for a given Task Assignment based on one (1) or more of the following four (4) below methods:
1. **Time & Material ("T&M").** Actual time and materials (T&M) costs marked up by a fixed percentage for Insurance costs, Overhead and Profit, and Bond costs (if required);
 2. **Unit Pricing.** Unit Prices for discrete elements of Work multiplied by actual units of Work provided;
 3. **Lump Sum.** Based on a Lump Sum Quote; and/or
 4. **Competitive Solicitation.** Based on compensation terms associated with a Sealed Bid received from pre-qualified Bidders.
- B. **Application of Compensation Methods.** The T&M method of compensation is used for compensation in emergency situations when there is no time to obtain either cost estimates, Unit Price quotes, or Lump Sum Quotes before commencing the Work. An emergency situation is a situation in which public health, welfare, or safety are in jeopardy.

Routine or periodic maintenance Work performed on a pre-determined schedule is typically compensated based on Unit Prices incorporated herein, though the compensation could also be based on T&M or Lump Sum quotes if the scope of the maintenance Work needed from one time to the next is not well defined.

Non-emergency scheduled Work typically allows sufficient time for the Contractor to prepare a cost estimate or quote for Thornton's consideration. Under a scheduled Work situation, either T&M estimates, Unit Prices, or Lump Sum Quotes may be used for compensation as the Parties mutually agree. If Unit Prices included in the Agreement adequately cover the Scope of Work needed for the Task Assignment, these Unit Prices may be used to calculate the compensation due. Or Thornton may request different Unit Prices be quoted for the specific Task Assignment's Scope of Work.

T & M Eligible Costs. T&M compensation includes all approved direct costs such as Subcontractor bid costs, Service Provider's direct billable labor costs calculated using personnel labor burdened billable hourly rates as defined in the Agreement, actual materials and equipment costs (both owned and rental), and other approved reimbursable expenses. The markups on such actual costs shall include compensation for all indirect costs, such as home office overhead.

If Contractor owns equipment that is required for a given Task Assignment, but the equipment rate is not defined herein, the Billable Rate shall be as defined as the FHWA rate in the most recent edition of the Rental Rate Blue Book. The Blue Book FHWA rates are without operator, adjusted for geographic region and age of equipment, and are derived from the Blue Book monthly rate divided by one hundred seventy-six (176) hours per month plus the hourly operating cost. Rates for specialty equipment not included in either the Schedule below or in the Rental Rate Blue Book may, at Thornton’s sole discretion, be negotiated for a specific Task Assignment.

Incidental tools or equipment required for T&M Task Assignment that are not listed or included in the Rental Rate Blue Book shall not be compensated separately and use of such tools or equipment shall be considered compensated by the Service Provider’s markup for Overhead and Profit. Thornton, at its sole discretion, shall determine if tools or equipment required are considered specialty equipment or incidental tools or equipment.

<u>Equipment Type:</u>	<u>Billable Rate/Time Period</u>
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____
_____	\$ _____ / _____

Additional Eligible Reimbursable Expenses. Reimbursable Expenses under T&M Work may include direct Task Assignment expenses such as, rental equipment, temporary power, water usage, passenger vehicle mileage at the approved IRS reimbursement rate, specialty vehicle mileage at rates defined herein, printing, copying, on-site trailer including utilities, telephones, computers, and out of town

travel, if pre-approved by Thornton. Other pre-approved expenses may include Builder’s Risk and Installation Floater, and Professional Liability insurance premiums as applicable to the Task Assignment.

Indirect Expenses. Business expenses not directly related to performance of the Task Assignment, such as home office mortgage or rent, depreciation of office equipment, home office utilities, general business insurance, non-direct labor costs for administrative staff, accountants, human resources personnel, are not to be included in reimbursable expenses. Indirect Expenses will be recovered in the percentage markup defined below for Overhead and Profit and applied to the total actual direct billable costs. Subcontractors’ indirect expenses shall be included in Subcontractors’ lump sum bids.

Markup Percentages for T&M Work. Percentages representing the Service Provider’s markups to be applied to the T&M costs for recovery of the following:

Insurance costs	_____ %	(not including Builder’s Risk, Installation Floater, or Professional Liability)
Bond costs	_____ %	
Overhead and Profit	_____ %	

Unit Prices. Unit Prices established in the Agreement or proposed for a given Task Assignment shall include compensation for all direct and indirect costs, including Overhead and Profit (“O&P”) and Commercial General Liability (“CGL”), and Auto Insurance. Builder’s Risk, Installation Floater, and/or Professional Liability insurance (if required) will be compensated separately at the actual premium cost. Bonds, if required, will be compensated separately at actual cost of the bonds. Bonds are required only for Task Assignments exceeding fifty thousand dollars (\$50,000) in estimated value.

Category	Units	UNIT PRICES
Mobilization	LS	\$
Asphalt Milling (2.5” Depth)	SY	\$
Adjust Manhole (ring adjustment)	EA	\$
Adjust Valve Box (ring adjustment)	EA	\$
Reset Manhole	EA	\$
Reset Valve Box	EA	\$
8” Manhole Frame	EA	\$
6” Manhole Frame	EA	\$
4” Manhole Frame	EA	\$
Valve Box Lid	EA	\$
Manhole Lid	EA	\$
2’ Adjustable Water Valve Riser	EA	\$

Adjust Century Link Manholes (ring adjustment, rings supplied)	EA	\$
Preformed 48" Tall Helmeted Cyclist Symbol (Preformed)	EA	\$
Preformed Pavement Marking (lane lines)	SF	\$
Preformed Pavement Marking (crosswalks, stop bars, intersection skips)	SF	\$
Preformed Thermoplastic Pavement Marking (arrows, words)	SF	\$
Thermoplastic Pavement Marking (lane lines)	SF	\$
Thermoplastic Pavement Marking (crosswalks, stop bars, intersection skips)	SF	\$
Reset Traffic Loop	EA	\$
Glassgrid	EA	\$
**Traffic Control	LS	To be negotiated for each Task Order
2.5" HMA (Grade SX) (75) (PG64-22)	TN	\$
3" HMA Patching (Grade S) (75) (PG64-22)	TN	\$
Install Type 1 78"x78" Asphalt Speed Cushions- all costs including Labor, Material, Equipment, Insurance, General Conditions costs, OH, and Profit	EA	\$
Install Type 2 120"x78" Asphalt Speed Cushions- all costs including Labor, Material, Equipment, Insurance, General Conditions costs, OH, and Profit	EA	\$
Install Type 3 144"x84" Asphalt Speed Cushions- all costs including Labor, Material, Equipment, Insurance, General Conditions costs, OH, and Profit	EA	\$

**** Prices for traffic control will be negotiated for each Task Order issued under this Agreement.**

Service Provider's Owned Equipment Billable Hourly Rates.

Service Provider's Owned Equipment Billable Hourly Rates defined herein shall include costs of maintenance, consumables such as fuel and oil, and depreciation, but shall not include allowance for recovery of overhead or profit. Subcontractor's owned-equipment costs shall be included in subcontractors' bids and will not be compensated separately. If Contractor owns equipment that is required for a given task assignment, but the equipment rate is not defined herein, the Billable Hourly Rate shall be as defined as the FHWA rate in the most recent edition of the Rental Rate Blue Book. The Blue Book FHWA rates are without operator, adjusted for geographic region and age of equipment, and are derived from the Blue Book monthly rate divided by one hundred seventy-six (176) hours per month plus the hourly operating cost. Rates for specialty equipment not included in either the Schedule below or in the Rental Rate Blue Book may, at Thornton's sole discretion, be negotiated for a specific task

Sealed Bids from Pre-qualified Service Providers. At Thornton's sole discretion, Sealed Bids may be requested to determine the compensation for non-emergency Work. Thornton will provide a Task Assignment's Scope of Work from which pre-qualified Service Providers will be requested to develop a Sealed Bid. In addition to the Bid price, Thornton may request additional information for evaluation, such as the proposed schedule of Work for the Task Assignment and/or credentials of the specific personnel proposed for the Work under the Task Assignment. Pre-qualified Service Providers are defined as those firms awarded an Agreement pursuant to a RFQ/P. Thornton may request that the Sealed Bids be in the form of T&M estimates, Unit Price Bids, and/or Lump Sum Price Bids as described above. The awarded firm under a Sealed Bid process will be notified of Award by a written Notice to Proceed (NTP) or a purchase order issued to the Contractor by Thornton.

- C. **Remedy of Defective Work during Construction and Warranty Correction Work.** Costs incurred by the Contractor to repair defective Work, whether during the Work phase or during the Guarantee Period, are not reimbursable to the Contractor and shall not be included in invoices or Applications for Payment. The Service Provider, at no additional cost to Thornton, shall repair defective Work.

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EXHIBIT D

MGPEC PAVEMENT DESIGN STANDARDS 8 CONSTRUCTION SPECIFICATIONS

ASPHALT PAVEMENT MATERIALS

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ASPHALT PAVEMENT MATERIALS

20.1 DESCRIPTION

This work shall consist of providing an Asphalt Paving Mixture (APM) to be placed as shown on the plans, or as directed by the **AGENCY**. The **CONTRACTOR** shall be responsible for Process Control (PC) of the APM; including the design, and control of the quality of the material incorporated into the project. The **AGENCY** will be responsible for Owners Acceptance (OA); including testing, to assure the quality of the material incorporated into the project meet design parameters. The following specifications include general requirements applicable to all types of plant mixed asphalt pavements. The work shall meet the requirements within the contract documents and in conformity with the lines, grades, thickness, and design cross sections as shown on the plans or established by the AGENCY's representative.

This specification is to maximize the service life of APM. It is also the intent of this document to provide construction requirements in accordance with these specifications to the standard of practice. This item shall include all labor, equipment, and materials to produce, place, and compact asphalt pavement.

A. Definition of Terms

Wherever the following abbreviations are used in the specifications or other contract documents, the intent and meaning will be interpreted as shown below:

AASHTO	American Association of State Highway & Transportation Officials
ASTM	American Society for Testing & Materials
APM	Asphalt Paving Mixture
RAP	Reclaimed Asphalt Pavement
SMA	Stone Matrix Asphalt
WMA	Workability Mixture Additive (formerly known as Warm Mix Asphalt)

B. Contractor Process Control

At least ten (10) Calendar Days prior to placing any mixture on the project, the **CONTRACTOR** shall submit a mix design for acceptance.

The **CONTRACTOR** shall assume full responsibility for controlling all operations and processes to meet the Specifications. The **CONTRACTOR** shall perform all tests necessary for process control purposes and maintain a log of all process control testing. Owners Acceptance (OA) and/or Process Control (PC) test results will be evaluated to determine acceptability.

Prior to use on the project the **CONTRACTOR** shall submit a quality control plan that addresses production, sampling, testing, qualifications of testing personnel, timing, and methods for making adjustments to meet the specifications. The **CONTRACTOR** will provide a process or schedule for making corrections for material that was placed but does not meet specifications as well as obtain a follow up sample immediately after corrective actions are taken to assess the

adequacy of the corrections. In the event the follow-up process control sample also fails to meet Specification requirements; the **CONTRACTOR** shall cease production of the asphalt mixture until the problem is adequately resolved to the satisfaction of the **AGENCY**.

20.2 MATERIALS

Asphalt mixtures may consist of aggregate, filler, anti-strip agent, Recycled Asphalt Pavement (RAP), Workability Mixture Additive (WMA) and asphalt binder.

A. Aggregate

The Aggregate shall be of uniform quality, composed of clean, hard, durable particles of crushed stone, crushed gravel. The material shall not contain clay balls, vegetable matter, rounded aggregate, or other deleterious substances, and shall meet the following requirements:

**TABLE 20.2A-1
Aggregate Properties**

Aggregate Test Property	Coarse: Retained on #4	Fine: Passing the #4
Fine Aggregate Angularity, CP-L 5113 Method A or AASHTO T 304 (Does not apply to RAP aggregate)		45% Min
Two Fractured Faces, ASTM D 5821 SG Mixtures Top and Middle Lifts Bottom Lifts SMA Mixtures	90% Min. 80% Min. 70% Min. 100% required	
Flat and Elongated (Ratio 5:1) %, AASHTO M 283	10% Max.	
Sand Equivalent. AASHTO-T 176		45% Min.
Micro Deval (for combined samples) AASHTO T 327	18% Max for design 20% Max. for production	

**TABLE 20.2A-2
Dense Graded Mixture Gradation (AASHTO T 11 & T 27)**

	ST (3/8" nominal)	SX (1/2" nominal)	S (3/4" nominal)	SG (1" nominal)
	Leveling, Maintenance, Bike Path, Sidewalk	Top and Bottom Lifts, Patching	Lower Lifts	Lower Lifts
Sieve Size				
1.5"				100
1"			100	90-100
3/4"		100	90-100	
1/2"	100	90-100		
3/8"	90-100			
#4				
#8	28-58	28-58	23-49	19-45
#16				
#30				
#50				
#200*	2.0-10.0	2.0-8.0	2.0-7.0	1.0-7.0

*Shall include one percent (1%) by total weight if lime is used as the anti-strip agent.

**TABLE 20.2A-3
SMA Mixture Gradation (AASHTO T 11 & T 27)**

Sieve Size	1/2"	3/4"
(1")		100
(3/4")	100	90-100
(1/2")	90-100	50-88
(3/8")	50-80	25-60
(#4)	20-35	20-28
(#8)	16-24	16-24
(#16)		
(#30)	12-18	12-18
(#50)		
(#100)		
(#200)	8-11	8-11

B. Reclaimed Asphalt Pavement (RAP)

Allowable percentages of RAP in APM are shown in Table 20.2B-1.

**TABLE 20.2B-1
RAP Allowed in APM Mixtures**

Mix Grading	Max % RAP allowed
ST (3/8")	25%
SX (1/2")	25%
S (3/4")	25%
SG (1")	35%
SMA (1/2" & 3/4")	Not Allowed

Properly prepared for final pavement patching.

1. Quality of RAP

RAP may be used where allowed and shall be of uniform quality and gradation with a maximum size no greater than the nominal aggregate size of the mix. RAP shall not contain clay balls, vegetable matter, or other deleterious substances.

Asphalt mixtures containing RAP shall meet the same gradation and physical requirements as in Table 20.2A-1.

Verification testing for asphalt content and gradation will be performed on RAP at the frequencies listed on Table 20.2B-2, below. The **CONTRACTOR** shall provide testing results on RAP mixtures daily for properties listed in this specification.

The aggregate obtained from the processed RAP shall be based on the required gradation limits for the mixture being used. The aggregate and binder obtained from the processed RAP shall meet the tolerances provided in Table 20.2B-2.

**Table 20.2B-2
RAP Binder & Aggregate Uniformity Tolerances**

Element	Standard Deviation
Binder Content	0.5
% Passing 3/4"	4.0
% Passing 1/2"	4.0
% Passing 3/8"	4.0
% Passing #4	4.0
% Passing #8	4.0
% Passing #30	3.0
% Passing #200	1.5

2. Process Control (PC) Plan for RAP

A PC plan detailing how the RAP will be processed and controlled shall be developed and followed by the **ASPHALT PRODUCER/ CONTRACTOR** and shall address the following:

A plan that explains the **CONTRACTOR'S** processing techniques for crushing, screening, rejecting, and stockpile operation.

RAP shall be tested as shown in Table 20.2B-2.

**Table 20.2B-2
Test Frequency of Processed RAP**

Test	Minimum testing frequency (minimum 3 tests)
Asphalt Binder Content (AASHTO T-164)	1/1,000 tons
Gradation (AASHTO T-30)	1/1,000 tons

Process control charts shall be maintained for binder content and each screen when RAP material is added to the stockpile. Separate control charts for each RAP stockpile shall be maintained. These charts shall be displayed and shall be provided upon request.

C. WMA Technology:

The **CONTRACTOR** may choose to use a WMA Technology that is included on the CDOT approved products list (<https://www.codot.gov/business/apl/asphalt-warm-mix.html>).

WMA technologies (additive or foaming) used shall be identified on the mix design submitted and approved by the **AGENCY** for use on a project.

If a WMA technology is used, the discharge temperatures may be lowered during production at the discretion of the **CONTRACTOR** provided all specifications are achieved.

D. Mineral Filler

Mineral filler for use with Stone Matrix Asphalt (SMA) pavement may consist of limestone dust or any other material filler that will meet the requirements of this subsection and have a maximum Plasticity Index (AASHTO T 90) of less than or equal to 4.0 %.

The **CONTRACTOR** shall submit hydrometer analysis (AASHTO T 88) for the gradation of mineral filler used in the SMA mixture.

E. Performance Graded Asphalt Binders

The **CONTRACTOR** shall provide to the **AGENCY** acceptable 'Certifications of Compliance' of each applicable asphalt binder grade from the supplier. Should testing or certificate show nonconformance with the specifications, the asphalt binder may be rejected. When production begins, the **CONTRACTOR** shall, upon request, provide to the **AGENCY** a one (1) quart can of each specified asphalt binder for analysis. Additionally, the **CONTRACTOR** shall provide the refinery test results that pertain to the asphalt binders used during production.

F. Asphalt Binder

Asphalt binder shall meet the requirements of the Performance-Graded Binders (PG) as presented in Table 20.2E-1 and consult www.LTTPbind.com when special circumstances arise.

**TABLE 20.2F-1
Properties of Performance Graded Binders**

Property of Binder Grade	PG 58-28	PG 64-22	PG 76-28
Flash Point Temperature, °C, AASHTO T 48	230 Min.	230 Min.	230 Min.
Viscosity at 135 °C, Pas, ASTM D 4402	3 Max.	3 Max.	3 Max.
Dynamic Shear, Temperature °C, where $C/\sin \delta @ 10 \text{ rad/sec.} \geq 1.00 \text{ Kpa}$, AASHTO TP 5	58 ° C	64 ° C	76 ° C

Rolling Thin Film Oven Residue Properties, AASHTO T 240			
Mass Loss, %, AASHTO T 240	1.00 Max.	1.00 Max.	1.00 Max.
Dynamic Shear, Temperature °C, where $G'/\sin \delta @ 10 \text{ rad/sec.} \geq 2.20 \text{ Kpa}$, AASHTO TP 5	58 ° C	64 ° C	76 ° C
Elastic Recovery ₁ , 25°C, % Min.	N/A	N/A	50 Min.
Pressure Aging Vessel Residue Properties, Aging Temperature 100 °C AASHTO R 28			
Dynamic Shear, Temperature °C, where $G'/\sin \delta @ 10 \text{ rad/sec.} \leq 5,000 \text{ Kpa}$, AASHTO TP 5	19 ° C	25 ° C	28 ° C
Creep Stiffness, @ 60 sec. Test Temperature in °C, AASHTO TP 1	-18 ° C	-12 ° C	-18 ° C
S, Mpa, AASHTO TP 1	300 Max.	300 Max.	300 Max.
m-value, AASHTO TP 1	0.300 Min.	0.300 Min.	0.300 Min.

G. Anti-Strip Additives

Anti-Strip shall be added into the APM. Anti-Strip agents may be liquids (added to the binder), lime (added to the aggregates) or other products, and shall be submitted for approval by the **AGENCY**.

The minimum value for Tensile Strength Ratio (TSR) shall be 80% for the mix design and 70% during production.

Liquid Anti-Strip

There are various types of liquid Anti-Strips. Amine and Organo-silane type liquid Anti-Strip additives are physically mixed with the asphalt binder.

Liquid Anti-Strip agents shall be added per the manufactures recommendations. Typical product dosages are provided in Table 20.2F-1.

**TABLE 20.2F-1
Liquid Anti-Strip Dosage Rates**

Type	Typical Dosage Rate
Amine	0.4% to 0.8%
Organo-silane	0.05% to 0.15%

WMA chemical products which display Anti-Stripping characteristics will be classified as a liquid Anti-Strip additive.

When a liquid Anti-Strip additive is used, the **CONTRACTOR** shall include the following information with the mix design submission:

- Information on the type of liquid Anti-Strip additive to be supplied, including product name, product manufacturer/supplier
- Additive rate
- TSR values for the treated mixes
- The proposed method for incorporating the additive into the plant produced mix.

Hydrated Lime

The hydrated lime for APM shall conform to the requirements of AASHTO M 303, Type I. In addition, the particle size requirements shall conform to AASHTO M 303 when tested in accordance with CP-L 4209 Physical Testing of Quicklime, Hydrated Lime, and Limestone. Hydrated Lime shall be added at the rate of 1% by dry weight of the aggregate and shall be included in the amount of material passing the No. 200 sieve.

20.3 MIX DESIGN AND PRODUCTION REQUIREMENTS

There shall be no substitutions of materials allowed during production. All substitutions will require checkpoint verification. If the checkpoint differs from the Job Mix Formula (JMF), a new mix design will be required. Upon request of the **AGENCY**, the binder grade may be changed by one available binder grade level without requiring a new mix design.

The **AGENCY** shall indicate on “Mix Design Requirements” Form 20, the criteria concerning mix design method, traffic level, binder type, mixture grading, and percent of RAP allowed.

Grading SG (1-inch nominal aggregate) shall only be designed using the 150mm molds. Hveem Stability is not required for Grading SG mixtures. Lottman test is required for Grading S or SX in-lieu of Lottman for Grading SG. Grading ST, SX, and S shall be designed using 100mm molds.

A. Mixture Design Method

A Job Mix Formula (JMF) design shall be submitted for each mixture required, at least ten (10) Calendar Days prior to construction, for review by the **AGENCY**. The JMF design shall be determined using AASHTO T-312 for the Method of Mixture Design.

Mixture design and field control testing of dense graded asphalt mixes shall meet the requirements of Table 20.3A-1. For mixes requiring a design gyration of 100 (ESALs greater than 3 million) the Project Special Conditions should be used. This gyration is not recommended for the majority of roads within MGPEC agencies.

Mixture design and field control testing of SMA shall meet the requirements of Table 20.3A-2.

**TABLE 20.3A-1
Mixture Properties for Dense Graded Asphalt Mixtures**

Property	Traffic Level (ESALs)	
	<100,000	≥100,000 to 3 Million
Design Gyration, N _{design}	50	75
Air Voids (V _a) % at N _{design} (AASHTO T-132)	3.0 – 4.0	3.0 – 4.0
Hveem Stability (AASHTO T-246) (Grading ST, SX & S only)	28 Min.	28 Min.
Voids Filled with Asphalt (V _a), MS-2	70-80	65-80
Accelerated Moisture Susceptibility, tensile strength ratio, (Lottman) (AASHTO T-283 Method B)(for S,SX,SG mixes)	80 Min.	80 Min.
Dry Tensile Strength, psi (AASHTO T-283)	30 Min.	30 Min.
Voids in Mineral Aggregates (VMA) % (AASHTO PP-19)	Table 20.3A-3	

**Table 20.3A-2
Mixture Properties for SMA**

Property	Test Method	Value
Lab compaction (Gyrations) N _{Design}	AASHTO T-312	75
Air Voids (V _a) % at N _{Design}	AASHTO T-312	3.0 – 4.0
Accelerated Moisture Susceptibility, tensile strength Ratio, (Lottman)	AASHTO T-283, Method B	80 Min.
Dry Split Tensile Strength, psi	ASHTO T-283, Method B	30 Min.
Grade of Asphalt Binder	N/A	PG 76-28
Voids in the Mineral Aggregate (VMA) %, minimum	AASHTO PP19	17
Drain Down at Production Temperature	AASHTO T-305	0.3 Max.

**TABLE 20.3A-3
Minimum Voids in Mineral Aggregate (VMA)
Dense Graded & SMA mixes**

Nominal Maximum Particle Size	Minimum VMA (%)		
	3.0% V _a	3.5% V _a	4.0% V _a
3/8" (ST)	15.5	15.6	15.7
1/2" (SX)	14.5	14.6	14.7
3/4" (S)	13.5	13.6	13.7
1" (SG)	12.5	12.6	12.7
SMA - 1/2"	17.0	17.0	17.0
SMA - 3/4"	17.0	17.0	17.0

B. Mixture Design Submittals

The **CONTRACTOR** shall submit all mix designs, Certificates of Compliance, and laboratory data to the **AGENCY** for approval at least ten (10) Calendar Days before construction is to begin.

Designs shall be developed and performed in a materials laboratory that meets the requirements set forth by AASHTO Materials Reference Laboratory (AMRL) for all testing procedures. , The design shall be stamped and signed by a

Professional Engineer licensed in the State of Colorado. In addition, the **CONTRACTOR** shall submit, as part of the mixture design, laboratory data documents to verify the following:

- Gradation, specific gravity, source and description of individual aggregates and the final blend.
- Aggregate physical properties.
- Source and Grade of the Performance Graded Binder.
- Proposed Design Job Mix: aggregate and additive blending, final gradation, optimum binder content.
- Mixing and compaction temperatures used.
- Mixture properties shall be determined with a minimum of four binder contents.

The **AGENCY** reserves the right to verify the asphalt supplier's mix design for each APM design utilizing materials produced and stockpiled. The asphalt supplier shall provide, at no cost, a sufficient quantity of each aggregate, mineral filler, RAP, and additive for the required laboratory tests, as well as all Certificates of Conformance/ Compliance at any time on any material used. The Asphalt Supplier shall provide copies of quality control testing results during the production of APM used within three business day from the sampling date.

C. Change in Source or Grade

Should a change in the source of any material used in the production of APM (aggregate, mineral filler, lime, or performance graded asphalt binder) occur, a one point verification test (at optimum binder content) of the mix must be performed to verify that the applicable criteria shown on Table 20.3A-1 (dense graded APM), Table 20.3A-2 (SMA), and Table 20.3A-3 (VMA), is still met. If this testing shows noncompliance, the **CONTRACTOR** shall establish a new job mix design and obtain approval by the **AGENCY** before the new APM is used.

D. Mix Production Verification

Production verification shall occur prior to the start of the project. Volumetric properties of the mix shall be verified by LabCAT Level C certified Technicians. If the mix was produced for another project within the last 90 days, data from that project can be submitted for verification. Volumetric properties for mix verification testing shall be within the tolerances in Table 20.12-1. The mix verification test reports shall be submitted to the **AGENCY** prior to mix placement.

Verification testing for binder content, gradation and physical properties shall be performed at the frequencies listed in Table 20.14-1.

E. Pre-Paving Meeting

The **AGENCY** may require a pre-paving meeting of all parties that are directly involved in the project. Traffic control, transport, sequence of paving and construction plans may be reviewed and discussed.

20.4 PRODUCTION

A. Preparation of Aggregates

Heating and drying of the aggregates shall be accomplished without damaging the aggregate. An Anti-Strip additive shall be added to achieve uniform coating of the aggregate, in accordance with Section 20.2F Anti-Strip Additives.

B. Mixing

The dried aggregates and asphalt binder shall be combined in the mixer in the quantities required to meet the design job mix formula. The materials shall be mixed until the aggregate is uniformly coated, and the asphalt binder is uniformly distributed throughout the aggregate. Baghouse fines may be fed back to the mixing plant in a continuous manner to maintain uniformity in the mixture at the discretion of the producer.

Discharge temperatures are shown in Table 20.4B-1.

**TABLE 20.4B-1
Mixture Discharge Temperatures**

Binder Grade	Minimum Discharge Temperature	Maximum Discharge Temperature
PG 58-28	275° F	305° F
PG 64-22	290° F	320° F
PG 76-28	320° F	330° F
Workability Mixture Additive (WMA)	If a WMA technology (additive or foaming) is used, the discharge temperatures may be lowered during production at the discretion of the CONTRACTOR provided all specifications are achieved.	

To protect the properties of the binder, APM shall be produced at the lowest temperature within the specified range that produces a workable mix and provides for uniform coating of aggregates, and that allows the **CONTRACTOR** to achieve the required compaction.

C. Transportation

Colorado Statutes require that each truck shall be covered. This will also help protect the mix during transport from contamination and weathering. The **AGENCY** may reject any uncovered APM which demonstrates it has been impacted by contamination and/or weather.

20.5 TACK COAT

Prior to placement of APM, a tack coat shall be applied to all existing concrete and asphalt surfaces.

The tack coat shall meet the specification for emulsified asphalt, consisting of CSS-1h or SS-1h and conform to AASHTO M208 or M140.

The tack coat shall be applied at a rate of 0.1 to 0.3 gallons per square yard. The surface receiving the tack coat shall be dry and clean, and dust, debris, and foreign matter shall be removed. Tack coat shall be applied uniformly. The **CONTRACTOR** shall allow the tack coat to cure (dehydrate) prior to the placement of APM. If the tack becomes contaminated during construction, it shall be cleaned, and if necessary, additional tack coat shall be reapplied and allowed to cure before paving resumes.

**TABLE 20.5-1
Tack Coat Application Rates**

Pavement Condition	Application Rate (gal/yd ²)		
	Residual	Undiluted	Diluted (1:1)
New asphalt	0.03 - 0.04	0.05 – 0.07	0.10 – 0.13
Oxidized asphalt	0.04 – 0.06	0.07 – 0.10	0.13 – 0.20
Milled Surface (asphalt)	0.06 – 0.08	0.10 – 0.13	0.20 – 0.30
Milled Surface (PCC)	0.06 – 0.08	0.10 – 0.13	0.20 – 0.30
Portland Cement Concrete	0.04 – 0.06	0.07 – 0.10	0.13 – 0.20

20.6 EQUIPMENT

A. Transport Equipment

Trucks used for transporting APM shall be free of debris, and should be treated with approved release agents. Petroleum distillates such as kerosene or fuel oil will not be permitted as a release agent. The **AGENCY** may reject any APM which demonstrates it has been contaminated from a petroleum distillate release agent.

B. Material Transfer

Placement of SMA shall require the use of a Material Transfer Vehicle (MTV) or Material Transfer Device (MTD). The MTV shall be a self-propelled unit with on board storage of material. An MTD is a non-self-propelled unit. Both MTV and MTD are capable of receiving material from trucks or from the ground, transferring the material from the unit to a paver hopper insert via a conveyor system.

C. APM Pavers

Self-propelled pavers shall be capable of placing the APM to the desired width, thickness and a satisfactory mat texture.

Pavers shall be equipped with automatic screed controls, the sensors may be contact or non- contact type devices. The controls shall be capable of maintaining the screed at the specified transverse slope within $\pm 0.1\%$.

20.7 PLACEMENT

APM shall be placed on properly constructed surfaces that are free from debris, frost, snow, or ice. APM shall be placed in accordance with the temperature limitations of Table 20.7A-1. In-place density for APM shall be 94% of maximum theoretical specific gravity (Rice - AASHTO T 209). The allowable variance shall be $\pm 2\%$. Test results shall be reported to the nearest whole number.

A. Temperature

Surface temperatures shall be used to determine placement of APM. APM produced with documented WMA will be allowed a reduction in minimum surface temperatures for placement as provided in Table 20.7A-1. Ambient temperatures and other weather conditions shall be considered prior to placement.

**TABLE 20.7A-1
Minimum Surface Temperatures for placement of APM**

Compacted Layer Thickness (in.)	Minimum Surface Temperature (°F)			
	Top Layer		Layers Below the Top Layer	
Product	APM	with WMA	APM	with WMA
<1½	60	50	50	40
1½ - <3	50	45	40	35
3 or more	45	40	35	35

If the **CONTRACTOR** modifies the placement and compaction processes when ambient temperatures are below minimum surface temperatures in Table 20.7A-1, they shall demonstrate to the **AGENCY** the required in-place density has been achieved. APM cooling software such as PaveCool, or MultiCool can be used to determine placement and compaction times available.

B. SMA Placement

The **CONTRACTOR** shall establish and document a roller pattern for the SMA being placed. The roller pattern shall include, but is not limited to the following:

- Number, size, and type of rollers
- Amplitude, frequency, and speed of rollers
- Temperature of mixture being compacted during each process (break down, intermediate and finish)
- Number of roller passes for each phase

The in-place density shall be determined during placement of the first 1,000 feet with a minimum of 95% of Theoretical Maximum Density (Rice). The allowable variance shall be $\pm 2\%$. Test results shall be reported to the nearest whole number.

SMA mixture shall be placed with the assistance of a MTV or MTD. The **CONTRACTOR** should minimize flushing and drain down during the transport and placement of SMA. If more than 50 square feet of flushed area is observed, the **CONTRACTOR** shall provide a remedy to address the flushing and/or drain down.

In place density may be determined by nuclear gauge measurements in accordance with ASTM D 2950 and AASHTO T 230, or based on cores in accordance with AASHTO T 166, Method B. When cores are used, the **CONTRACTOR** shall provide all labor and equipment for the coring and repair of the holes.

When the material being placed is on a structure (bridge deck), nuclear gauge measurements shall be used.

C. WMA Technology

WMA technologies (additive or foaming) may be used as a compaction aid and may allow for workability of the APM at lower temperatures.

The addition of WMA additives during production, including foaming, shall be controlled by a calibrated metering system interlocked with the plant's controls per the manufacturers' recommendation.

Additives may be added at the asphalt terminal at the dosage rate recommended by the WMA technology provider. The dosage rate and additive name shall be printed on the Bill of Lading for the asphalt binder.

The foaming process mixes water and binder to create microscopic steam bubbles. Typical water injection rate is $\leq 2\%$ of binder flow rate or per manufacturers' recommendation.

20.8 LONGITUDINAL JOINTS

The **CONTRACTOR** shall submit a joint plan and pavement marking plan showing the location of and the methods to establish the paving control lines. The plan shall be approved by the **AGENCY**. The **CONTRACTOR** shall use a method to delineate longitudinal joints during paving.

Longitudinal joints in all pavement layers shall offset the joint in the layer immediately below by a minimum of six inches. The joint in any pavement layer shall not fall in or between wheel paths. Joints in the top layer of new pavement shall be located on lane lines unless otherwise shown on the plans. Longitudinal joints shall be minimized with wide paving pulls. Joints shall be parallel to the flow of traffic and shall not cross any centerline, lane line, or edge line.

All paving shall be placed parallel to the roadway centerline and as straight as possible. All joints shall receive a coat of tack prior to placement of adjacent paving.

20.9 TRANSVERSE JOINTS

The **CONTRACTOR** shall submit a joint plan. The plan shall be approved by the **AGENCY**. The **CONTRACTOR** shall use an approved plan to delineate transverse joints during paving. Transverse joints shall be formed by cutting back on the previous run to expose the full depth of the course. Tack coat material shall be applied to contact surfaces of all joints before additional mixture is placed against the previously compacted material.

The surface tolerance at the transverse joint shall be verified by the **CONTRACTOR** with a 10 foot straight edge. If the surface tolerance exceeds 3/16" across the joint, measured in at least three locations, the **CONTRACTOR** shall make corrections to the joint before proceeding.

20.10 SEGREGATION

Visually segregated areas shall be corrected before the initial compaction process is applied. Segregated areas may be determined visually or by other acceptable means. The **CONTRACTOR** shall correct segregated areas to the satisfaction of the **AGENCY**.

20.11 COMPACTION

Equipment used for compaction of the APM will be at the discretion of the **CONTRACTOR**. The number, weight, and type of rollers furnished shall be sufficient to obtain the required density and surface texture.

When the mixture contains unmodified asphalt binder (PG 58-28 or PG 64-22), and the surface temperature falls below 180°F, further compactive effort shall not be applied unless the **CONTRACTOR** can demonstrate that there is no damage to the finished mat.

If the mixture contains modified asphalt binder (PG 76-28) and the surface temperature falls below 230°F, further compactive effort shall not be applied unless the **CONTRACTOR** can demonstrate that there is no damage to the finished mat.

Use of rollers with the vibrator on will not be permitted on bridge decks covered with waterproofing membrane.

In-place density for APM shall be 94% of maximum theoretical specific gravity (Rice - AASHTO T 209). The allowable variance shall be $\pm 2\%$. Test results shall be reported to the nearest whole number. Rice values will be based on a three production day's average. The **CONTRACTOR** shall provide the producer's Rice value, which shall be used for production until the actual day's Rice value is determined by the testing firm of record for the project.

In place density for SMA shall be determined during placement of the first 1,000 feet with a minimum of 95% of theoretical maximum specific gravity Rice - AASHTO T 209). The allowable variance shall be $\pm 2\%$. Test results shall be reported to the nearest whole number.

All joints shall be compacted to 92% of Rice, taken six inches offset from the joint, at a minimum of one every 1000 linear feet or fraction thereof. The allowable variance shall be $\pm 2\%$. Test results shall be reported to the nearest whole number.

Cores may be used to verify compaction results. The **CONTRACTOR** shall core the pavement, as required by the **AGENCY**; in accordance with AASHTO T 230, Method B, or for field calibration of nuclear density equipment in accordance with the ASTM D 2950. At a minimum, cores for nuclear density equipment correlation shall be taken at the beginning of placement of each pavement layer or change of mixture materials or gradation.

Along forms, curbs, headers, walls, and all other places not accessible to the rollers, the mixture shall meet all project compaction specifications. Any mixture that is defective, shall be corrected to meet the project specifications at the expense of the **CONTRACTOR**.

20.12 PRODUCTION TOLERANCES

A. Wearing Course

Surface variation shall not exceed 3/16 inch in 10 feet for full lane width paving. For patching, the variation shall not exceed 3/8 inch in 10 feet. The final pavement surface shall not vary from the specified cross section by more than one-inch at any point. Transverse measurements for variations shall exclude breaks in the crown sections. Corrections shall be made at the **CONTRACTOR's** expense.

The final surface pavement adjacent to curb and gutter shall be finished from 1/8-inch to 3/8-inches above the lip for catch curb and shall not extend above the lip for spill curb.

The **CONTRACTOR** shall adjust all manholes, valve boxes, and survey range boxes 1/8 to 1/2- inch below final grade and adjusted to match the slope of the roadway. Valve boxes and manholes are to be maintained fully accessible at all times for emergency and maintenance operations. The cost of adjusting valve boxes, manholes, and survey range boxes shall be included in the work, unless otherwise specified. The **CONTRACTOR** shall be responsible for any cost incurred by the **AGENCY** to provide access to the covered manholes or valve boxes. Final adjustment of all utility access points shall be completed within seven days of from the time the APM was placed.

B. Job Mix Formula

Tolerances for gradation are presented in Table 20.2A-2 and Table 20.2A-3. APM volumetric tolerances are presented in Table 20.12B-1.

**TABLE 20.12B-1
Production Mix Tolerances**

Property	Tolerance
Air Voids	± 1.2%
VMA	± 1.2%
Asphalt Binder	± 0.3%

20.13 CONFORMITY WITH PLANS AND SPECIFICATIONS

A. Materials

Materials shall be sampled by and tested by a LabCAT certified technician(s) in an AMRL accredited testing laboratory in accordance with Section 20.14.

Test results that have sampling or testing errors shall not be used.

B. Pavement Thickness

A minimum of ninety (90%) of all the pavement thickness cores must equal or exceed the required thickness shown on plans or pavement design report.

If the pavement thickness deficiency is greater than 0.25 inches for individual cores, two additional cores will be taken by the **CONTRACTOR** 50 feet before and after each deficient core. The three core results will be averaged to determine if the results meet the required thickness. When individual core thickness deviates from the target thickness by more than 0.25 inch but not more than 0.50 inch, remedial action will be required. The **CONTRACTOR** shall present proposed remedial measures for consideration by the **AGENCY**. The **AGENCY** will review the proposal

within ten (10) working days to accept or modify the remedial measures. The remedial measures will be performed by the **CONTRACTOR** at no additional cost to the **AGENCY**.

When individual core thickness deviates from the target thickness by more than 0.50 inch, corrective action shall be required. The deficient area will overlaid with no less than one-inch thick lift to meet the design thickness. The **CONTRACTOR** will mill to match existing facilities prior to corrective overlay. The mixture proposed shall be approved by the **AGENCY**. Corrective action will be performed by the **CONTRACTOR** within 15 working days.

If the **AGENCY** does not want the top lift cored, they may require the **CONTRACTOR** to use non-destructive survey techniques to determine APM thickness.

C. Smoothness

Smoothness criteria is typically not applicable for local agency roads. Impacts of curb and gutter, utilities, cross streets, and intersections will cause deviation from plane making smoothness measurements inaccurate.

However, if the **AGENCY** elects to set smoothness criteria it should only be established for roadways with speed limits 35 mph or greater. When specified, the **CONTRACTOR** shall profile the roadway prior to the work taking place and immediately after the work has ended. The **CONTRACTOR** will be required to maintain or improve the ride quality. If the ride quality decreases, the **CONTRACTOR** will be required to restore the ride to the levels it was prior to the work taking place.

D. Acceptance

If the **CONTRACTOR** does not meet the project specifications, but acceptable work has been produced, the **AGENCY** shall determine the extent of the work to be accepted. If the **AGENCY** determines the work is not acceptable, the **CONTRACTOR** shall correct the work, as approved by the **AGENCY**, at the expense of the **CONTRACTOR**.

20.14 TESTING AND INSPECTION

If any materials furnished or work performed fails to meet the specification requirements, such deficiencies shall be documented and reported to the **AGENCY**. Field reports shall be delivered to the **AGENCY** within three business days. Test results that cannot be completed within three days shall be provided to the **AGENCY** no later than one (1) week after the sample was obtained.

Testing of APM shall be performed in accordance with Table 20.14-1. Laboratories shall be accredited by AASHTO Materials Reference Laboratory (AMRL) for the tests being performed. Technicians obtaining samples and conducting compaction tests

must have a LabCAT Level A certification. Technicians conducting tests of asphalt content and gradation must have a LabCAT Level B certification. Technicians performing volumetric testing must have a LabCAT Level C certification. Inspectors on APM projects shall be LabCAT Inspector Certified (Level I).

**TABLE 20.14-1
Minimum Materials Sampling and Testing for Process Control and Owners Acceptance**

Test	Standard	Minimum Frequency
Sampling	AASHTO T168, ASTM D 979 and ASTM D3665	1/1000 tons or fraction thereof (not less than one (1) test per day)
Density	AASHTO T 166, T 238, T 230	One (1) test for each 250-lineal feet per lane
Thickness (Core)	ASTM D3549	One test for each 1000-lineal feet per lane
Air Voids & VMA	AASHTO T 166 & AASHTO PP 19	1/1000 tons or fraction thereof (not less than one (1) test per day)
Gradation	AASHTO T 27, T 11	1/1000 tons or fraction thereof (not less than one (1) test per day)
Hveem/Marsh all Stability As Applicable	AASHTO T 245, AASHTO T-246	1/1000 tons or fraction thereof (not less than one (1) test per day)
Binder Content	AASHTO T 164 or other methods agreed upon between Agency and Contractor	1/1000 tons or fraction thereof (not less than one (1) test per day)
Maximum Theoretical Specific Gravity (Rice)	AASHTO T 209	1/1000 tons or fraction thereof (not less than one (1) test per day)
Lottman Stripping, TSR & Dry Density	AASHTO T 283	One (1) per project per mix used.

20.15 PAYMENT

Accepted quantities of APM shall be paid at the contract price when complete and in place according to the Plans and Specifications. The contract price per contract and shall include labor, materials, and equipment necessary to complete the work.

**TABLE 20.15-1
Payment**

Description	Payment
Asphalt Pavement Material	\$ / Ton Placed
Emulsified Tack Coat – (measured prior to the addition of water)	\$ / Gallon
Stone Matrix Asphalt	\$ / Ton Placed

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**METROPOLITAN GOVERNMENT
PAVEMENT ENGINEERS COUNCIL**

**Form 20
Mix Design Requirements** V. 10/2017

Agency: _____ **Date:** _____

Project: _____

Details: _____ **APM (tons):** _____
(To / From, Length)

Classification Arterial Collector Local Other _____

APM Placement Wearing course Intermediate lift Bottom lift Patching

ASPHALT MIX DESIGN			
Design / Traffic	<input type="checkbox"/> N _{design} = 50 gyrations	<100,000 ESALs	
	<input type="checkbox"/> N _{design} = 75 gyrations	≥100,000 to <3 million ESALs	
Binder	<input type="checkbox"/> PG 58-28	<input type="checkbox"/> PG 64-22	<input type="checkbox"/> PG 76-28 (Top lift only)
		<u>Minimum Lift (3x)</u>	<u>Maximum Lift (5x)</u>
	Grading	<input type="checkbox"/> ST (3/8")	1 1/8"
	<input type="checkbox"/> SX (1/2")	1 1/2"	2 1/2"
	<input type="checkbox"/> S (3/4")	2"	4 1/4"
	<input type="checkbox"/> SG (1")	3"	5"
	<input type="checkbox"/> SMA (1/2")	1 1/2"	2 1/2"
	<input type="checkbox"/> SMA (3/4")	3"	4 1/4"
Anti – Strip	<input type="checkbox"/> Liquid	<input type="checkbox"/> Lime	

BEST PRACTICES to include in Mix Design		
RAP	<input type="checkbox"/> 25%	<input type="checkbox"/> 35% (Grading SG only)
WMA	<input type="checkbox"/> Additive	<input type="checkbox"/> Foaming

AGENCY EXCEPTIONS
<input type="checkbox"/> No RAP in wearing course
<input type="checkbox"/> No RAP allowed in mixture
<input type="checkbox"/> No WMA allowed in mix

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ASPHALT MILLING

21.1 DESCRIPTION

21.2 EQUIPMENT

21.3 PROCEDURE

21.4 QUALITY CONTROL / TESTING

21.5 MEASUREMENT

21.6 PAYMENT

21.1 DESCRIPTION

This item shall consist of furnishing all equipment, supervision, labor, and necessary items for removal and disposal of pavements and pavement markings as illustrated in the Plans. It shall also include salvaging and hauling away all planed material, and sawing and cutting to facilitate controlled breaking and removal of concrete and asphalt cement concrete pavement to a neat line. Traffic control is considered part of this Item and shall not be paid for separately.

21.2 EQUIPMENT

The **CONTRACTOR** shall supply all equipment necessary to perform the work, including but not limited to:

A planer with sufficient power, traction, and stability shall be required to maintain an accurate depth of cut. The propulsion and guidance system of the planer shall be maintained in such condition that the planer may be operated to straight and true lines without excessive lateral deviation. Operation with broken or missing teeth will not be allowed. Worn teeth shall be replaced if the planer does not produce a uniform surface. The planer shall be capable of picking up the removed asphalt cement concrete pavement in a single operation. A self-loading conveyer shall be an integral part of the planer. Windrows will not be allowed. A sufficient number of brooms shall be used immediately after planning to remove all planed material remaining on the roadway. Signage and traffic control shall be consistent with the Manual of Uniform Traffic Control Device, latest edition. Longitudinal profilograph and trained operator shall also be provided. Equipment shall be approved by the **AGENCY**. All equipment and machinery shall be kept in good working order, free of leaks and properly muffled. All taxes, licenses and fees shall have been paid and proper licenses and permits shall be posted as required by law.

21.3 PROCEDURE

Prior to beginning planing operations, the **CONTRACTOR** shall submit a planing plan for approval by the **AGENCY**. This plan shall include as a minimum:

- The number and types of planers to be used.
- The width and location of each planing pass.
- The number and types of brooms to be used, and their locations with respect to the planers. The **CONTRACTOR** shall have at least one (1) back-up broom on the Project at all times in case one (1) of the operating brooms breaks down.
- Traffic control plan.

When planing adjacent to new asphalt cement concrete pavement, the planer shall cut a minimum of 3-inches laterally into the new asphalt cement concrete pavement. When a planed area is adjacent to Portland cement concrete, the concrete shall be cut with a saw to form a smooth, straight line at the joint with the Portland cement concrete. The asphalt cement concrete pavement shall be broken or chipped away to match the plane depth. Profilograph measurements shall be taken before and after planing. The planed surface shall be no rougher (in inches/mile) than the original surface.

21.4 QUALITY CONTROL / TESTING

The longitudinal surface smoothness of the pavement surface prior to and after planing shall be tested in accordance with the Profilograph Method. The **CONTRACTOR** shall provide, operate, and maintain on the project, an approved "California Type" multi-wheel profilograph manufactured by Cox or McCracken that meets the requirements of Colorado Procedures (CP) 64 (0.2" 15 mm] blanking band), and this specification. The profilograph shall be equipped with:

- A micro-computer capable of automatically reducing the data recorded.
- A printer compatible with the micro-computer.
- A power source for the micro-computer and printer.

The computer shall contain a Third Order Filter with adjustable settings 1 through 5. A setting of two (2) shall be used.

The computer shall download the profilograph data onto a disk which shall be delivered to the **AGENCY**. The data on the disk shall be formatted to permit evaluation of the data by the **AGENCY**. If software is required for this evaluation, the **CONTRACTOR** shall provide copies of the software for the **AGENCY's** use.

The **CONTRACTOR** shall arrange and pay for training for **CONTRACTOR** personnel in the calibration operation and maintenance of the profilograph conducted by a representative of the manufacturer of the profilograph that will be utilized on the project. The **CONTRACTOR's** operator shall have attended the aforementioned training and have a letter so stating. The **CONTRACTOR's** operator shall follow the manufacturer's instructions and shall measure and record profiles in accordance with CP 64, and this specification.

The profilograph shall be operated at a speed of not less than one (1) mile per hour, nor more than three (3) miles per hour in accordance with the Manufacturer's recommendations, without interfering with traffic or the operation of the profilograph. The profilograph shall be calibrated after transportation and before each day's use in accordance with the manufacturer's instructions and CP 64.

The Profile Index (PI) in inches per mile shall be determined for each lane. This profile will be called a Lane Profile Index (LPI). The LPI shall consist of two (2) profiles taken 3-feet (0.9 m) from and parallel to the edge of each lane. The LPIs' of the two (2) profiles for each lane shall be averaged to determine the LPI. Each LPI shall include the following information:

General information:

- Project number;
- Project location;
- Date;
- Lane and wheel path profiled;
- Beginning and ending stations;
- Operator's signature;
- Net total linear feet of each lane; and
- LPI in inches per mile.

Lanes with a LPI after planning which is greater than the LPI prior to planning shall be replanned or corrected by a method approved in writing by the **AGENCY** until the LPI is no greater than the LPI prior to planning. The hot bituminous pavement (HBP) overlay thickness in a replanned area shall be increased by the depth of the replanning. All corrective work shall be at the **CONTRACTOR's** expense including all traffic control necessary for completion of the corrective work and all additional HBP necessary to replace the replanned material.

21.5 MEASUREMENT

The planning areas will be measured by the square yard planed and cleaned per the plans. No excess beyond the plan quantities shall be paid.

21.6 PAYMENT

The work performed in accordance with this Item and measured as provided under 21.5 Measurement will be paid for at the unit price bid for "Asphalt Cement Concrete Planing". Payment for planning shall include all equipment, supervision, labor, material, supplies, maintenance and other items necessary to perform the items included in the Specifications, including all engineering calculations, traffic control and tests provided by the **CONTRACTOR**. Profile testing of the roadway surface prior to and after planing will not be measured and paid for separately but shall be included in the work.

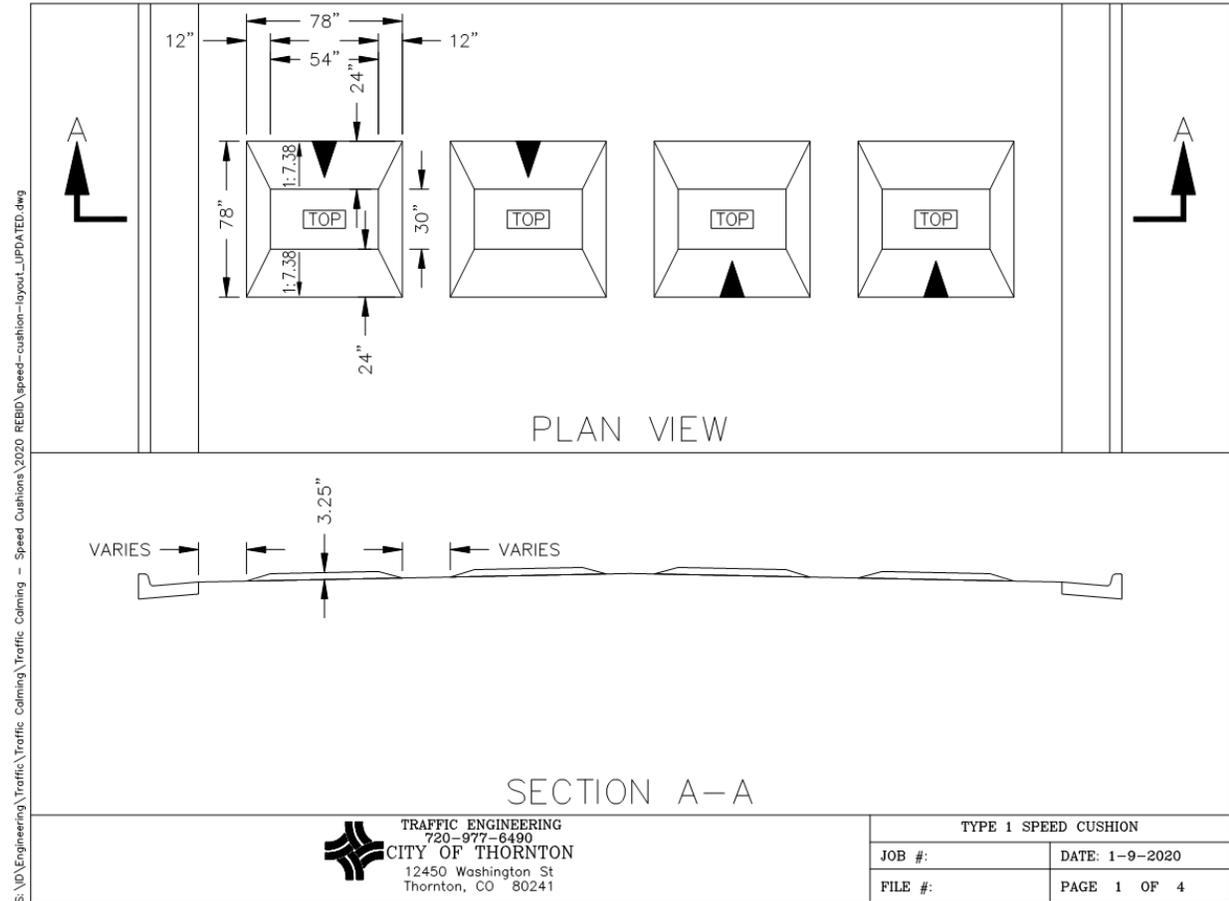
Item	Description	Payment
21.6	Asphalt Cement Concrete Pavement Planing	\$/yd ²

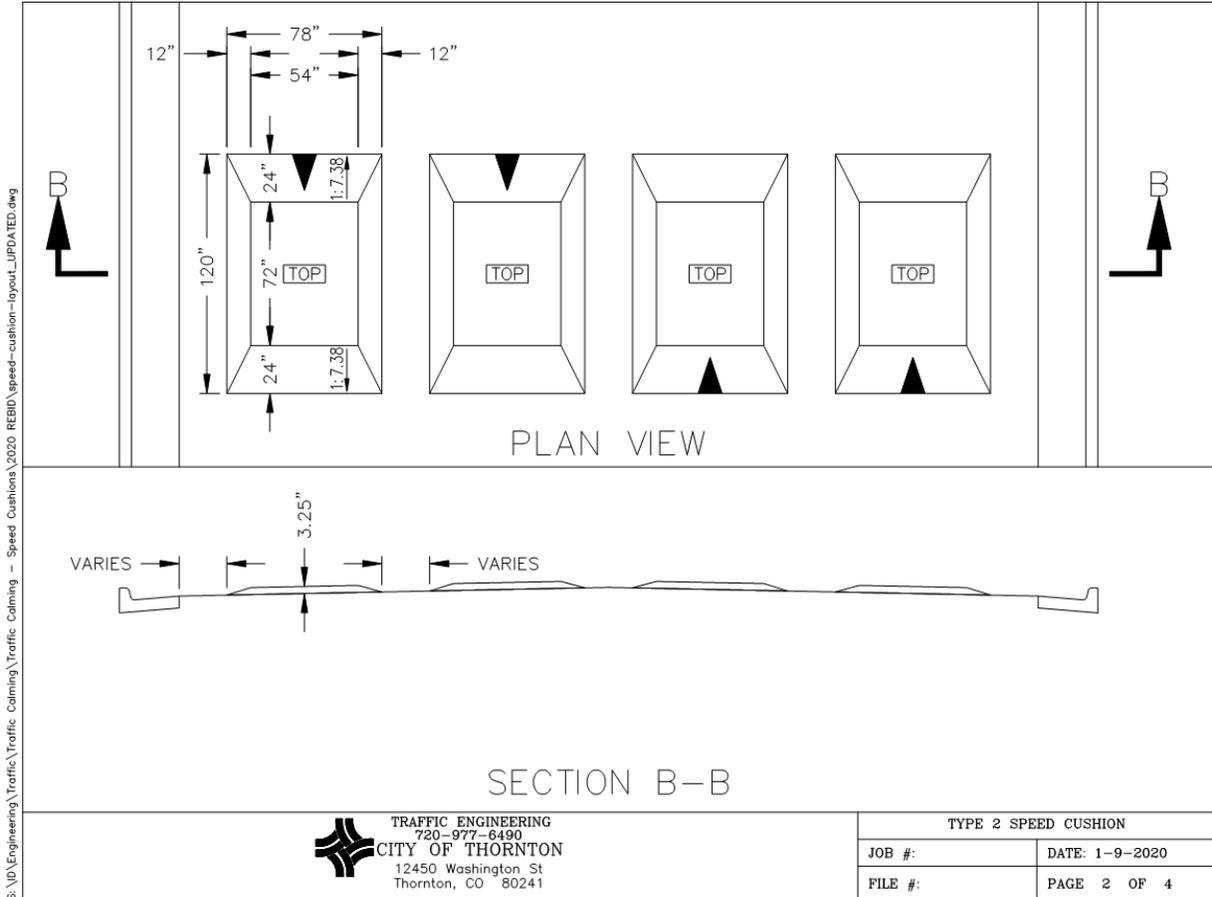
Speed Cushions

Details:

The tolerance for the height of the speed cushion shall be (+/-) 0.25". This is measured by taking a straight-edge across three locations at the top of speed cushion and measuring on either side down to the grade of existing asphalt. (6) measurements per speed cushion will be taken in total and averaged. This average needs to meet the required tolerance of (+/-) 0.25". Note all speed cushion types have a height of 3.25".

The tolerance for the length and width of the speed cushion shall be (+/-) 3".





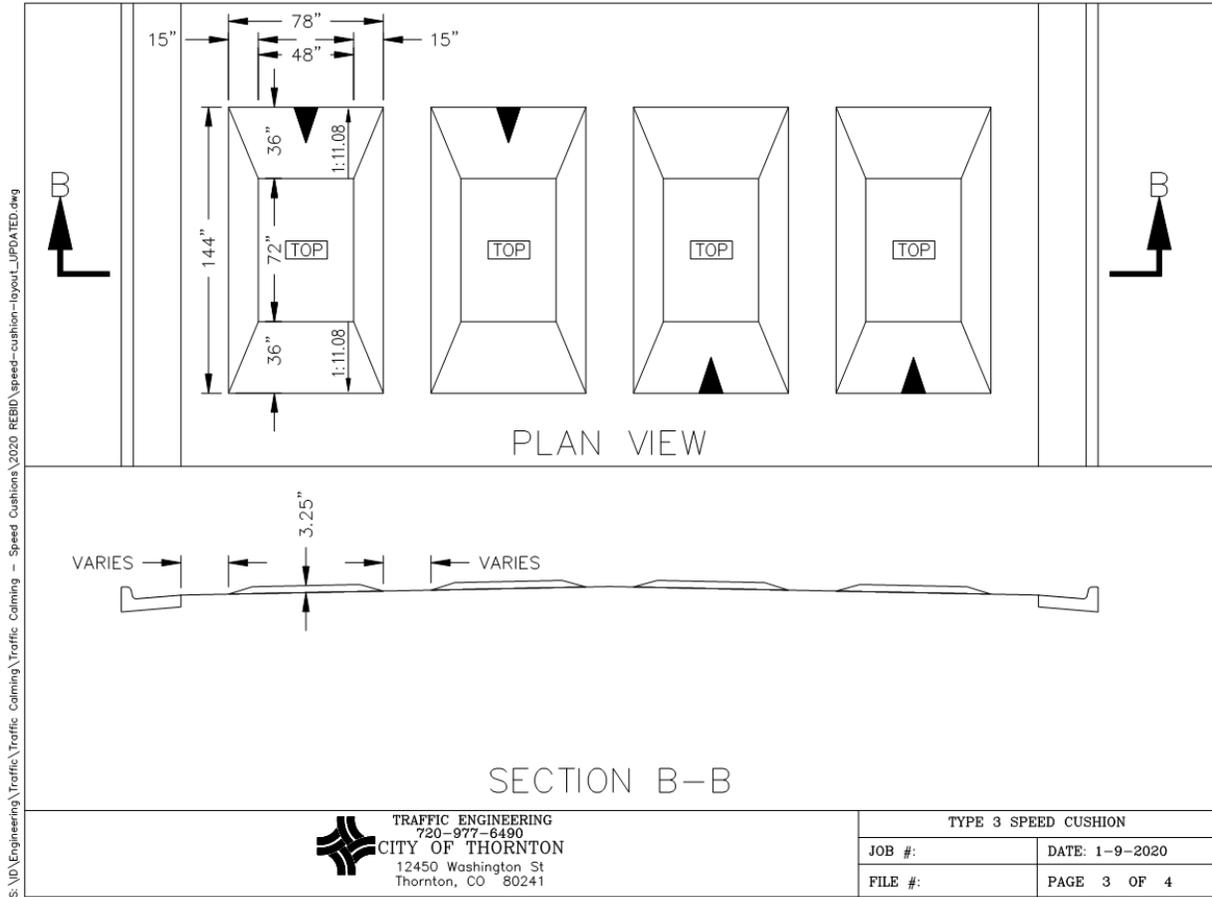


EXHIBIT E

SPECIAL CONDITIONS

- A. **Contact Information.** Contractor shall also supply the telephone number(s) of Service Provider's representative.
- B. **Thornton Provided Materials and Equipment.** In the event that Thornton provides Materials and/or Equipment to the Contractor for use in association with a Task Assignment, Contractor agrees to accept responsibility and control of such Materials and/or Equipment once the Materials and/or Equipment are in Service Providers care. Under these circumstances, Contractor shall maintain the Material and Equipment as if it was purchased and supplied by the Contractor. In the event that the Material and/or equipment is damaged while in Contractor's care, the Materials and/or Equipment will be repaired or replaced at Service Provider's expenses, as necessary to complete the Task Assignment to Thornton's satisfaction.
- C. **Liquidated Damages.**
1. The Parties agree time is of the essence in the Agreement with respect to the required Substantial Completion Date (which may be changed or extended in accordance with the terms of the Agreement). The Parties further agree the actual damages Thornton would incur are difficult or impossible to calculate with any certainty but the delay would cause an inconvenience, increased cost and loss of use by the public if Contractor fails to substantially complete the Work by the date set forth in the Task Assignment's Scope of Work.
 2. As a remedy, and not as a penalty for Service Provider's failure to meet the Substantial Completion Date, Contractor shall be liable for each Calendar Day after the Substantial Completion Date in the amount of Liquidated Damages as set forth in the Task Assignment's Scope of Work, until the Work is Substantially Complete.

Thornton shall have the right to offset any such amounts owed to Thornton as Liquidated Damages and not as a penalty, in whole or in part against amounts due to Contractor under the Agreement. Thornton will notify the Contractor in writing of any Liquidated Damages claim on or before Thornton deducts such sums from money owed and payable to the Service Provider. In the alternative, Contractor shall pay such Liquidated Damages (without offset or deduction for any amounts Contractor claims Thornton may owe) by certified or cashier's check or by wire transfer to a bank account designated by Thornton within thirty (30) days of receipt of invoice, which Thornton may issue from time to time until Substantial Completion has occurred.

3. Thornton's right to Liquidated Damages shall be in lieu of any other damages Thornton may be entitled to collect because of Service Provider's delay in achieving Substantial Completion of the Work on or before the required Substantial Completion Date. However, the Liquidated Damages provided to Thornton under this Section shall not limit its other available remedies, which Thornton may have, either at law or in equity, for any breach or failure to perform by Contractor under this Agreement.
4. No delay by the Thornton will be construed as a waiver of its right to assess or collect Liquidated Damages from Service Provider. Notwithstanding the terms of this Liquidated Damages Section, should a court of competent jurisdiction find all or any provisions in Section C, Liquidated Damages, are invalid or unenforceable, Thornton may pursue its actual damages caused by Service Provider's unexcused delay.

D. Dispute Resolution.

1. Unless otherwise agreed in writing, Contractor shall continue to perform the Work during any dispute or dispute resolution proceedings. If Contractor continues to perform, Thornton shall continue to make payments in accordance with this Agreement. The Parties shall attempt to resolve the dispute between the Parties' chosen representatives.
2. If either Party claims that attempts to resolve the dispute has reached an impasse, the Parties shall refer the dispute to the City Manager or City Manager's designee(s) to reach resolution through good faith direct discussions. The Parties agree the representatives should possess the necessary authority to resolve the dispute. If the dispute remains unresolved after thirty (30) days the Parties shall submit the dispute to mediation, which shall be held in the City of Thornton. The Parties shall share equally in the mediator's fees.
3. If mediation is unsuccessful, the Parties may proceed to litigation. Any legal action concerning or arising out of this Agreement shall be brought in the District Court, County of Adams, State of Colorado.
4. Any action arising out of or relating to this Agreement asserted by Contractor against Thornton shall be brought within two (2) years from when the action accrued pursuant to C.R.S. § 13-80-102(h), as may be amended.
5. This Agreement shall be governed by the Laws of the State of Colorado notwithstanding its choice of law principles.

E. **Hazardous Materials**

1. After commencing the Work, if previously unknown suspected Hazardous Materials are discovered at the Project Site, Contractor shall immediately stop Work in the area affected by the presence of the suspected Hazardous Materials. Contractor shall immediately report the condition to Thornton and, if required, any governmental agencies with jurisdiction. Contractor shall not commence or continue Work until any existing known or unknown Hazardous Material at the Project Site has been remediated or rendered harmless, unless such Work is included in the Service Provider's Scope of Work.

- F. **Criminal Background Checks of Contractor Personnel.** Contractor shall comply with all applicable federal, state and local laws concerning criminal background checks for all personnel proposed for performance of Work in a sensitive or secure location,. Contractor warrants that no current employee, Subcontractor or agent performing services under this Agreement that has been convicted of a felony criminal offense in Colorado or in any other State will work under any Task Assignment or this Agreement without Thornton's written approval and proper supervision at a Work site by Service Provider, that in Thornton's reasonable discretion, is a sensitive or secure location. For purposes of this subsection: (a) "convicted" means a conviction by a jury or by a court, a plea of nolo contendere, and the imposition of a deferred or suspended sentence of a felony charge; and (b) "sensitive\secure location" is any place so designated by Thornton.

- G. **Retainage.** Thornton shall make progress payments against Task Assignments based on Service Provider's invoices or Application for Payment and shall make payment to Contractor within thirty (30) Calendar Days after receipt by Thornton of a complete and correct invoice or Application for Payment. For any Task Assignment valued at more than fifty thousand dollars (\$50,000), Thornton shall withhold retainage of five percent (5%) from each invoice or Application for Payment until the Work is one hundred percent (100%) complete and accepted by Thornton and the period for filing verified statement of claims has expired. In no case will the value of the retainage withheld at the conclusion of the Work be less than five percent (5%) of the total Cost of the Work. Thornton will publicly advertise Notice of Final Settlement for each Task Assignment valued at more than fifty thousand dollars (\$50,000) as required by 38-26-101 et. seq. C.R.S. Thornton will make Final Payment of retainage, less any sums withheld due to properly filed verified claims, on the date of Final Settlement.

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EXHIBIT F

GENERAL CONDITIONS

- I. DEFINITIONS AND TERMS** – When the Contract Documents indicates that Work shall be "accepted, acceptable, approved, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined, directed, disapproved, established, given, indicated, insufficient, interpreted, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable, unsatisfactory", it shall be understood that these expressions are followed by the words "by Thornton". References made as to masculine in gender and singular in number shall be applicable to all genders and the use of singular number shall include the plural and conversely.
1. **Advertisement** – A public announcement inviting Proposals for Work to be performed and/or Materials and Equipment to be furnished.
 2. **Amendment** – written changes, modifications, or alterations to the Agreement, agreed to and executed by the Parties.
 3. **Award** – The acceptance by Thornton of a Proposal.
 4. **Basis Of Payment** – The terms under which Work is paid under the Scope of Work, and/or Contract Documents.
 5. **Bidder** – An individual, firm, or corporation submitting a Proposal for the advertised Work. May also be referred to as proposing firm.
 6. **Calendar Day** – Each and every Day shown on the calendar, beginning and ending at midnight.
 7. **Changed Or Extra Work** – Work not provided for in a specific Task Assignment's Scope of Work as awarded or the Contract Documents, but determined by Thornton to be essential to the satisfactory completion of the Task Assignment for its intended purpose.
 8. **City Manager** – City Manager is the chief administrative officer of the City of Thornton with the expressed functions and duties as set forth in Chapter 5 of the City of Thornton Charter.
 9. **Completion Date** – The date on which all the Scope of Work is specified to be Substantially Complete.
 10. **Condition Precedent** – An act or event that shall occur prior to the start of a subsequent act or event as defined by the Agreement Scope of Work or by the Task Assignment's Scope of Work and/or the Contract Documents.

11. **Construction Equipment** – All plant, machinery, tools, and apparatus, including parts and supplies for operation and maintenance, which are necessary for the proper performance and acceptable completion of the Work.
12. **Contract Documents** – the documents defined in the Agreement, as well as specific Task Assignment documents including, by way of illustration not limitation, the Task Assignment’s surety bonds, if any, Specifications, Drawings, the Task Assignment’s Scope of Work, Notice to Proceed, Change Orders, Substantial Completion, Initial Acceptance Final Acceptance, proposals, addenda and similar documents.
13. **Contractor** – The party contracting directly with Thornton to furnish and perform all Work in accordance with the Contract Documents. May also be referred to as Service Provider.
14. **County** – The County in which the Work is to be done.
15. **Cost Of Work** – The basis of compensation to Contractor for a specific Task Assignment’s Scope of Work as defined in the Contract Documents.
16. **Day** – Unless otherwise defined shall mean Calendar Day.
17. **Defective** – An adjective which, when modifying the word Work refers to work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by Thornton in writing at Substantial Completion).
18. **Drawings** – The drawings, or reproductions, provided by Thornton that shows the location, character, dimensions, and details of the Work to be done. May also be referred to as Plans.
19. **Engineer** – The Engineering Director - Infrastructure, Contracts and Purchasing Director, or their designated representatives.
20. **Final Acceptance** – The acknowledgment by Thornton that the Warranty Period has expired and there appear to be no outstanding items to be corrected under the provision of the warranty.
21. **Final Payment** – payment made to Service Provider, including release of any retainage withheld, following Thornton’s granting of Initial Acceptance of a specific Task Assignment’s Scope of Work and/or Contract Documents.

22. **Final Settlement Date** – The date designated by Thornton in accordance with CRS 38-26-107, or as subsequently amended.
23. **Good And Workmanlike Manner** – In a manner generally considered skillful by those capable of judging such Work and as compared to the industry standard practices in the Denver Metropolitan Area.
24. **Good Repair** – A condition free from any defect, functional problems or structural deterioration (except that from ordinary and reasonable use) which appreciably reduces the effectiveness or efficiency of the Work or improvement for the purpose intended, or any departure from the standards of original condition described in the Scope of Work, and/or Contract Documents. Contractor warrants that the Work shall be in Good Repair during the Warranty Period.
25. **Guaranty Period** – See, Warranty Period.
26. **Hazardous Material** – is any substance or material identified now or during the term of the Agreement as hazardous under any Laws or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirements governing handling, disposal or clean-up.
27. **Initial Acceptance** – An acknowledgment by Thornton that, to the best of Thornton's knowledge, all Work, including punch list items, has been completed in accordance with the Drawings, Specifications and other Contract Documents. Initial Acceptance shall not release Contractor of any warranty or guaranty obligations.
28. **Thornton Representative** – The individual employee or agent assigned and designated as Thornton's primary representative to observe the prosecution of the Work by Service Provider.
29. **Key Personnel** – Service Provider's personnel function in the role of owner, principal, manager, superintendent, or supervisor who typically have responsibility for assuring the Work is performed per the Agreement.
30. **Materials and/or Equipment** – All components, articles, appliances, devices, substances, supplies, and miscellaneous items specified or required for use in the performance of the Task Assignment.
31. **May** – Permissive.
32. **Milestone Date** – A principal event specified in a specific Task Assignment's Scope of Work relating to an intermediate completion date or time prior to Substantial Completion of the Work.

33. **Non-Conformance** – Not in accordance with the terms and conditions set forth in the Contract Documents.
34. **Notice To Proceed** – Written notice to Contractor to proceed with the Work for a specific Task Assignment's Scope of Work, which shall also include, Service Provider's estimate of total cost and Service Provider's schedule, including, when applicable, the date of beginning and ending of the Task Assignment.
35. **Owner** – The City of Thornton or its designated representative may also be referred to as Thornton, City, or COT.
36. **Plans** – The drawings, or reproductions, which may be provided by Thornton which show the location, character, dimensions, and details of the Work to be done. May also be referred to as Drawings.
37. **Project** – The solicitation and award of this Agreement for on-call, as-needed services.
38. **Proposal** – The offer of a proposing firm, on the prescribed forms, to perform the Work at the rates quoted. May also be referred to as Bid or Bid Proposal.
39. **Purchase Order** – A document used to encumber funds to cover the cost of Work authorized by Thornton.
40. **Reference to Trade Contractors** – When only this principal Agreement exists for all Work covered by the Contract Documents, reference to trade contractors in the Contract Documents shall not create any contractual relationship between Thornton and any trade contractor with whom the principal Contractor may subcontract.
41. **Right-of-Way** – A general term denoting land, property, or interest therein, acquired for or devoted to the construction or maintenance of an improvement; may also be referred to as R.O.W.
42. **Salvageable Material** – Material that can be saved or salvaged.
43. **Samples** – Physical examples furnished or constructed by Contractor to illustrate Materials, Equipment, workmanship, or finishes, and to establish standards by which the Work will be judged.
44. **Schedule of Work** – A bar chart schedule or a critical path method schedule, as the specific Task Assignment's Scope of Work warrants and Contract Documents require, which graphically depicts Service Provider's plan for the performance of the Work from Notice to Proceed to Substantial Completion of the Task Assignment.

45. **Scope of Work Change Order** – A written order issued to Contractor by Thornton which covers additions, deletions, or revisions to the Contract Documents, as well as Extra Work and which establishes the Basis of Payment and any time adjustment for the Work affected by the Change Order.
46. **Scope of Work Price** – The monies payable by Thornton to Contractor for completion of the Work in accordance with the Contract Documents.
47. **Scope of Work Time** – The number of Calendar Days, including authorized time extensions, allowed for Substantial Completion of the Scope of Work. Where a calendar date of completion is specified, the Scope of Work shall be substantially completed on or before that date, including authorized time extensions.
48. **Contractor**– The party contracting directly with Thornton to furnish and perform all Work in accordance with the Scope of Work, and/or Contract Documents. May also be referred to as Contractor.
49. **"Shall" Implied** – In the interest of conciseness, some sentences, statements and clauses used in the Scope of Work, and/or Contract Documents exclude any form of the verb "shall" normally expressed in a verb phrase with verbs such as "furnish", "install", "provide", "perform", "construct", "erect", "comply", "apply", "submit", etc. but any such sentences, statements and clauses shall be interpreted to include the applicable form of the phrase "Contractor shall" and the requirements described therein shall be interpreted as mandatory elements of the Agreement.
50. **Shall - Mandatory.**
51. **Submittals** – Shop Drawings, diagrams, illustrations, certificates, test reports, schedules, performance charts, brochures, shop layouts, fabrication layouts, assembly layouts, foundation layouts, wiring and piping layouts, specifications and descriptive literature, and any other submittals required by the Scope of Work, and/or Contract Documents, which are prepared by Contractor or any Subcontractor, manufacturer, supplier, or distributor, and which illustrate some portion of the Work for a specific Task Assignment.
52. **Specifications** – Those portions of the Contract Documents, also known as the Technical Specifications, consisting of the written technical descriptions of Materials, Equipment, systems, standards, and workmanship as applied to the completion of the Work.
53. **Subcontractor** – A party supplying labor and material or only labor for Work at the site of the Task Assignment for, and under separate contract with, Service Provider. Nothing contained in the Scope of Work, and/or Contract Documents shall create any contractual relationship between Thornton and any Subcontractor.

- 54. **Substantial Completion** – When the Work is sufficiently completed so it may be utilized by Thornton for all of the purposes for which it was intended, in accordance with applicable life, health, and safety codes, but exclusive of minor Work to be completed or corrected as typically referred to in the industry as “punch list” Work.
- 55. **Superintendent** – Service Provider's authorized representative in charge of directing Service Provider’s on-site Work.
- 56. **Task Assignment** – Assignment given to Contractor by Thornton’s Representative to perform the Work for a specific Scope of Work. Task Assignments shall be established through a Purchase Order, Notice to Proceed, or written Amendment.
- 57. **Warranty Period** – The period from Initial Acceptance to Final Acceptance that Contractor is responsible for corrections to keep the Work in Good Repair.
- 58. **Work** – All Materials and Equipment incorporated or to be incorporated into the Task Assignment and all labor, expendable equipment, utilities, transportation, operations and services necessary to complete the Task Assignment, including in part all obligations, duties, and responsibilities necessary to the successful completion of the Task Assignment in a Good and Workmanlike Manner.

II. NOTICE TO PROCEED - For all non-emergency Work for a specific Task Assignment’s Scope of Work, a written Notice to Proceed (“NTP”) or a Purchase Order will be issued to Contractor by Thornton. The Contract Documents and/or the Purchase Order shall describe the specific Scope of Work requirements, the method of compensation and the estimated or lump sum cost, and schedule for Contractor to perform all required Work. Contractor shall not begin performing any Task Assignment’s Scope of Work until Thornton has either issued a written NTP to Service Provider, and/or given Contractor a Purchase Order. Contractor shall reference the Purchase Order number on the invoices for the specific Scope of Work.

III. SERVICE PROVIDER’S RESPONSIBILITIES

- A. **Right of Entry.** Contractor shall provide to Thornton, or representatives of the federal, state, county, district, and municipal governmental officials and services, complete and free access to the Work, whenever Thornton requests access.
- B. **Protection of Persons.** Contractor shall:
 - 1. At all times protect the lives and health of its employees performing Work under the Scope of Work;

2. Take all necessary precautions for the safety of all persons on or in the vicinity of the Work site; and
 3. Comply with current federal, state, county and municipal safety laws and building codes, and all applicable laws regarding worker health and safety related to the prevention of accidents and injuries to persons on or about the Work site. If the state where the Work will be performed has legislation concerning occupational safety and health, Contractor will comply with such legislation and its applicable rules and regulations now and as amended.
- C. **Protection of Work.** Contractor shall at all times safely guard and protect the Work; provide, erect, and maintain suitable barriers around all excavations or obstructions to prevent accidents; and provide, place, and maintain during the night sufficient lights, signals, and signs for this purpose on or near the Work. Contractor shall at all times, until its completion, protect the Equipment and Material from accidental or any other damage; and shall be responsible to pay for replacement or repair of any damages thus occurring in accordance with the provisions in Subsection 35(g) Operations and Storage.
- D. **Personnel, Subcontractors.** Contractor shall:
1. Provide and maintain, continually on the site of the Work during its progress, adequate and competent superintendence of all operations for and in connection with the Work under this Agreement. Contractor shall either personally superintend his Work or shall cause it to be done by a capable superintendent acceptable to Thornton. Said Superintendent shall have authority to see that the Work is carried out in accordance with this Agreement and in a first class, thorough, and Good and Workmanlike Manner in every respect.
 2. Dismiss incompetent, disorderly, intemperate, or incorrigible employees when requested by Thornton and such person shall not again be permitted to return to the Work without the written consent of Thornton.
 3. Indemnify and hold Thornton harmless from any and all loss or damages arising out of jurisdictional labor disputes or other labor troubles of any kind that may occur during the performance of any Work under this Agreement.
 4. Provide, at the request of Thornton, such reasonable information about his employees as may be necessary, including in part, name, address, and social security number.

E. **Licenses and Permits.** Contractor shall:

1. Obtain, at its expense, all appropriate licenses from Thornton and/or other governing jurisdictions before the start of the Work. A Master Plumber's License is required for connecting to water and sanitary sewer mains in Thornton. Costs associated with obtaining a Master Plumber's License are the responsibility of Service Provider.
2. Obtain and purchase all permits necessary for performance of the Work, including federal, state, county, and local permits before commencing any Work, unless otherwise specified or indicated by Thornton.
3. Obtain its building permits from the City of Thornton City Development Building Inspection Division located at 9500 Civic Center Drive.
4. Obtain its construction permits from the City of Thornton City Development Planning Division located at 9500 Civic Center Drive.
5. Obtain its traffic control permits from the City of Thornton Infrastructure Department Traffic Division located at 12450 Washington Street.
6. When needed, obtain its NPDES permits from the Colorado Department of Public Health and Environment.
7. There is no charge to Contractor for any of the permits listed in (3) through (5), above.

F. **Operations and Storage.** Contractor shall:

1. Confine all operations, including storage of Materials and Equipment, to areas authorized by Thornton.
2. Be liable for and pay any costs associated with restoring all damages caused by Contractor and its Subcontractors to the premises and will not include those costs to restore the premises to its original condition as part of the Cost of the Work.
3. Be wholly responsible for the care, compliance with law, and storage of Materials or Equipment delivered on the Work site or purchased for use in the execution of the Work. Stored Materials or Equipment shall be carefully protected at all times from damage and deterioration and be located to facilitate inspection by Thornton. The responsibility for the care and storage of Materials or Equipment belongs solely to Contractor regardless if Contractor or Thornton furnished the

Materials and Equipment. Storage of Materials or Equipment shall not interfere with the progress of Service Provider's Work or the work of any other contractor.

4. Be liable for and pay the costs associated with restoring any damages to Materials and Equipment caused by its Subcontractors, whether in storage or incorporated into the Work and will not include the costs to restore damaged Materials or Equipment to their original condition as part of the Cost of the Work.
 5. Be liable for the costs of removal and replacement, or other remedial measures for Materials and Equipment installed that do not meet the requirements of the Contract Documents and will not include those costs as part of the Cost of the Work.
- G. **Stockpiling Material.** Contractor shall not stockpile Materials or Equipment in the public streets or ROW, except for that which is expected to be used that day. At all times, Contractor shall provide access to the individual residents/users adjacent to the Task Assignment site, as well as necessary services they may require (e.g. mail service, trash collection, etc.).
- H. **Staging Area.** Contractor is solely responsible for acquisition and payment of any staging area to be used during the Work period. This area shall be secure to prevent loss of Materials and Equipment. Any replacement of Material and Equipment shall be the responsibility of Contractor at no additional cost to Thornton.
- I. **Workmanship, Materials, and Equipment**
1. All Material and Equipment furnished by Contractor shall be new and unused and shall strictly conform to the Contract Documents. Competent labor, mechanics, and tradesmen shall be used on the Work. Experienced manufacturer's representatives shall be used to supervise the installation of Equipment as may be required by Thornton. Any special tools or Construction Equipment, which may be required, shall be provided by Service Provider.
 2. The acceptance at any time of Materials or Equipment by or on behalf of Thornton shall not be a bar to future rejection if they are subsequently found to be defective, inferior in quality, or uniformity to the Material or Equipment specified, or are not as represented to Thornton.
- J. **Sanitary Conveniences.** Contractor shall furnish the necessary sanitary conveniences, properly secluded, for the use of workers during performance of the Work, and these conveniences shall be maintained in a manner that will be inoffensive and in compliance with federal, state, and local health and sanitation requirements.

K. **Clean Up.** Contractor shall:

1. Maintain general cleanup practices and keep all ROW, streets, alleys, sidewalks, parking lots, yards, and other premises free from material and debris to the extent the Work permits. Upon the completion of any part of the Work, Contractor shall remove all surplus material, mud, rubbish, debris, or other objectionable items and leave all areas in a safe, acceptable condition. Under no circumstances shall Contractor allow any condition to exist that creates a nuisance, fire hazard or an environment injurious to health or safety, or an attraction for children, animals, etc., during or after performance of the Work.
2. Upon receiving a Clean-up notice from Thornton, if Contractor fails to comply, Thornton shall have the right to clean up such material and debris, make repairs, and charge the cleanup cost to Contractor and deduct the cost from any monies due or that may be due to Service Provider.

L. **Additional Responsibilities.** Contractor shall:

1. Supervise, inspect, and direct the Work completely and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with this Agreement. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of the Work.
2. Be responsible to see that the complete Work complies accurately with the Contract Documents. If required by Thornton, Contractor shall either correct the Defective Work, whether fabricated, installed or completed or not, or if the Work has been rejected by Thornton, remove it from the site and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages caused by or resulting from such correction or removal (including, but not limited to, all costs of repair or replacement of Work of others) and these costs shall not be included in the Cost of the Work or be eligible for reimbursement by Thornton.
3. Contractor shall comply with all federal, state, county, district, and municipal laws, ordinances, rules, regulations, building codes, and safety codes relating to or applicable to the Work and shall furnish certification of compliance at completion of the Work upon request of Thornton.
4. Contractor shall perform all Work and furnish all Materials and Equipment, Construction Equipment, labor, transportation, superintendence, testing, facilities, services, means, methods,

techniques, insurance, and utilities, except as otherwise specified in this Agreement or in the Task Assignment's Scope of Work, necessary or proper to perform and complete all Work required by and in accordance with the Contract Documents and pay all applicable taxes incidental to performing said Work and furnishing such items.

5. Contractor alone shall be completely responsible for:
 - a. All means, methods, techniques, sequences, and coordination of all Work and services under the Contract Documents;
 - b. All conditions at the job site, including in part safety of all persons and property;
 - c. The supervision, direction, and control of all Work and services under the Scope of Work; and
 - d. All safety procedures and precautions necessary in connection with the Work and services.
 - e. These responsibilities of Contractor shall apply continuously and shall not be limited to normal working hours. Review of the Work by Thornton shall not relieve Contractor of such responsibilities.
 - f. Contractor shall furnish, erect, maintain, and remove all temporary works and facilities as may be required to perform the Scope of Work.
 - g. Contractor alone shall be fully responsible for the safety, efficiency, and adequacy of their Construction Equipment, Material and Equipment, facilities and appliances, and for any damage, which may result from their failure or their improper erection, installation, maintenance, or operation.

M. **Service Provider's Schedule Of Work.** This schedule shall be Service Provider's Working Schedule and shall be used to plan, organize, and execute the Work; record and report the progress of the Work; and forecast remaining Work. Contractor shall be responsible for assuring that all Subcontractor Work, acquisition and delivery of Materials and Equipment, as well as its own Work, are included in the Schedule of Work and that the schedule represents a coordinated plan of Work.

N. **Coordination With Thornton And Other Contractors.** Contractor is advised that completion of the Scope of Work may require coordination with Thornton personnel and other trades and/or contractors under separate

contracts with Thornton. Special efforts will be made by Contractor to cooperate with other entities that may be on the site and to not interfere with or delay others in the prosecution of their work.

O. Performance and Labor & Material Payment Bonds.

1. If the estimated cost of any specific Task Assignment's Scope of Work exceeds fifty thousand dollars (\$50,000), Contractor shall furnish two (2) separate surety bonds (the form of which shall be substantially as attached), each in an amount at least equal to one hundred percent (100%) of the estimated Cost of Work as security for the following:
 - a. The faithful performance of the Scope of Work and the terms, conditions, and stipulations contained therein;
 - b. Payment of all laborers and mechanics for labor performed and payment for all Materials and Equipment furnished and for all Materials and Equipment used or rented in the performance of the Scope of Work.
2. The Surety on such bonds shall be satisfactory to Thornton and shall be a duly authorized Surety company licensed to do business in the State of Colorado, and appearing on the latest Federal Register Circular 570 as published by the Department of the Treasury unless otherwise approved by Thornton. In no case will Sureties with less than a Best's A Rating be approved. The Surety will in no way be financially associated with Service Provider.
3. Any and all bonds shall be so written incorporate the Contract Documents and any specific Task Assignment subject to the bonds, whether by reference or attachment, to give the Surety full notice of the conditions.
4. Prior to proceeding with the Work for any Task Assignment's Scope of Work that requires bonds, Contractor shall furnish Thornton with the required "Performance Bond" and "Labor and Materials Payment Bond" each in a sum equal to the total amount of the estimated Cost of Work.
5. If at any time a Surety on any such bond shall become insolvent, is declared bankrupt, loses its right to do business in the state in which the Work is to be performed, or is no longer listed in Department of the Treasury Circular 570, Contractor shall within ten (10) Calendar Days after notice from Thornton to do so, substitute acceptable bonds in such form and sum and signed by such other sureties as may be satisfactory to Thornton.

IV. **THORNTON'S RESPONSIBILITIES AND AUTHORITY**

A. Engineer.

1. Engineer is the agent of Thornton but only to the extent provided in the Contract Documents and Engineer's agreement with Thornton. Thornton may retain a consulting Engineer to furnish engineering services during performance of the Work. Thornton or its Engineer shall observe and review the Work during construction, provided, however, compliance with the Contract Documents shall be solely Service Provider's responsibility, notwithstanding such observation or review. Thornton may suspend the Work when it appears such suspension may be necessary to accomplish the proper implementation of the intent of the Contract Documents.
2. The Engineer's authority to observe, review or suspend the Work, or exercise such other authority as may be granted to Thornton by the Contract Documents, shall not be construed or interpreted to mean supervision of the Work, which is Service Provider's sole responsibility, nor make Thornton or Engineer responsible for providing a safe place for the performance of Work by Service Provider, its employees, Subcontractors or suppliers, or for access, visits, use, work, travel or occupancy by any other person.
3. Thornton's Engineer shall have the authority to reject any or all Work, Materials and Equipment, which does not conform to the Contract Documents, and to decide technical questions that arise in the execution of the Work.

B. Thornton shall make the final determination of the amount, quality, acceptability and fitness of the Work, including Materials and Equipment, which are to be paid for under this Agreement, a Task Assignment or Purchase Order and shall decide all questions, which may arise in relation to such Work.

C. Thornton's decisions shall be final and conclusive, except as otherwise expressly provided. In case any question shall arise relative to the Contract Documents or to a specific Scope of Work, the determination of Thornton shall be a Condition Precedent to Service Provider's right to receive payment for Work affected by such determination.

D. Thornton shall decide the meaning and intent of the Contract Documents or a specific Scope of Work that may be ambiguous, obscure or is disputed.

E. Thornton's Representative

1. Thornton may assign someone to act as the contact person and to monitor the quality and performance of the Work. Contractor shall

provide the Thornton Representative with the contact information of Service Provider's Superintendent and other key personnel before, or when the Work begins.

2. Review the Work. During the progress of the Work, Contractor shall grant the Thornton Representative reasonable access to the job site to observe Service Provider's performance of Work. Contractor will give the Thornton Representative every reasonable opportunity and assistance to review and observe the prosecution of the Work. If any Work is covered before Thornton approves or consents, Service Provider, at its own expense, will uncover the Work for examination by Thornton.
3. The fact that Thornton's Representative is present and on the job site is not to be construed as acceptance of Service Provider's Work or any part of it. Upon completing the Scope of Work, Contractor shall notify Thornton to allow Thornton the opportunity to review the Work, and any tests and re-tests that require Thornton or its representative to review. When the Work is complete and substantially complies with the Contract Documents, Thornton will make Initial Acceptance of the Scope of Work as described in the applicable Task Assignment. If the Work or any part of the Work is not acceptable, Contractor shall perform the Work necessary for Initial Acceptance at no additional cost to Thornton.
4. One of the primary interests of the Thornton Representative is to see that Work progresses expediently and in a Good and Workmanlike Manner, the Thornton Representative may as the need arises offer suggestions to Service Provider, which, at the discretion of the Service Provider, may or may not be followed. Since the Thornton Representative's suggestions are only suggestions, and do not involve the assumption of responsibility, financial or otherwise, by either Thornton Representative or Thornton. Likewise, any assistance the Thornton Representative may give to Contractor is not to be construed as the assumption of any responsibility in any manner, financial or otherwise, by Thornton Representative, or Thornton.
5. Thornton Representative shall not be authorized to approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents. Such approvals, acceptance, or instructions, when given, must be in writing and signed by the City Manager or City Manager's designee(s).
6. Thornton Representative is not nor does it purport to be a Safety Engineer and is not engaged by Thornton in that capacity, and shall have neither the authority nor the responsibility to enforce safety laws, rules, regulations, procedures, or the safety of persons on and about the Work site.

7. Nothing in this subsection will be construed to require or place the responsibility for the method, manner or supervision of the performance of the Work upon the Thornton Representative or Thornton. Such responsibility rests solely with Service Provider.
8. Thornton's Representative will be kept informed on the progress of the Work and have access to and provided records related to the Work; act as liaison between Contractor and Thornton; and will call the attention of Contractor to any deviations from the Contract Documents. However, Thornton's Representative failure to call attention to Defective Work, deviations from the Scope of Work, and/or Contract Documents shall not constitute acceptance of non-conforming Work.
9. Materials and Equipment. Thornton Representative shall have authority to reject Defective Materials and Equipment; however, the failure of Thornton Representative to reject Defective Material or any other Work involving deviations from the Scope of Work, and/or Contract Documents shall not constitute acceptance of such Work.

F. Separate Contracts

1. Thornton reserves the right to let other contracts in connection with the Work, to include deletions in portions of this Agreement. Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials, machinery, equipment, supplies, and the execution of their work, and shall properly connect and coordinate his Work with theirs.
2. If any part of Service Provider's Work depends upon the work of any other contractor for proper execution or results, Contractor shall inspect and promptly report in writing to Thornton any lack of progress or defects in the other contractor's work that render it unsuitable for proper execution or results. Failure on the part of Contractor to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of Service Provider's Work. No extra time will be allowed to Contractor for failure on the part of Contractor to inspect and report on the abovementioned unsuitable Work.
3. To insure the proper execution of this subsequent Work, Contractor shall measure existing work and shall at once report in writing to Thornton any incompatibility between the existing work and the Work anticipated by the Scope of Work, and/or Contract Documents.

G. Testing and Inspections.

1. Thornton may engage the services of an outside testing and inspection agency to test and inspect Service Provider's Work. Contractor shall fully cooperate with any such agency and shall afford access to the Work and incidental tools, power, or other items necessary for the agency to perform their tests and inspections.
2. All tests and re-tests unless otherwise provided, shall be in accordance with the pertinent sections of the latest edition of the standards applicable to the material or devices to be tested.

H. Reports, Drawings, Specifications and Other Data

1. Thornton will provide Contractor with reports, Drawings, Specifications, and such other data as may be available to Thornton and reasonably required by Services Provider to perform the Work. No Project information shall be disclosed by Services Provider to third parties without prior written consent of Thornton or pursuant to a lawful Court Order directing such disclosure.
2. All documents provided by Thornton to Services Provider shall be returned to Thornton at the end of the Project or upon Thornton's request. Services Provider is authorized by Thornton to retain copies of such documents at Services Provider's expense.
3. Regarding any electronic devices with data storage capability, including but not limited to computers and copiers, used by the Services Provider in connection with the performance of Work, Services Provider represents the following:
 - a. Devices, such as copiers or fax machines, which are not intended to be a data storage device for purposes of performing the Work hereunder, shall have their data storage devices scrubbed each day, either manually or automatically, to delete any data related to Thornton's Project.
 - b. At the time an electronic device with data storage capacity is taken out of service, all such devices will be securely scrubbed of all data related to Thornton's Project and all data storage drives will be physically destroyed prior to disposition of the device to insure no Thornton data could ever be retrieved from such device.
4. All data, drawings, designs, plans, reports, studies, schedules, computer programs (nonproprietary), computer input and output, analyses, tests, maps, surveys, or any other materials developed for

this Project by Services Provider are and shall be the sole and exclusive property of Thornton. Services Provider hereby transfers any copyright, trademark, or other intellectual property rights to Thornton. However, any reuse of any documents by Thornton without prior written authorization by Services Provider other than for the specific intended purpose of this Contract will be at Thornton's risk. Prior to disposal of any Project documents, the Services Provider shall provide Thornton with a ten (10) Calendar Day written notice that it has documents it intends to dispose of, during which time Thornton may take physical possession of such documents.

V. PAYMENTS

- A. With each authorized progress payment, Contractor shall submit to Thornton an itemized invoice or Application for Payment (as acceptable to Thornton). Invoices and Applications for Payment shall include hourly breakdowns (as applicable) for all personnel and other charges, which are supported by information substantiating Service Provider's claim for payment as Thornton may require. Contractor shall reference the purchase order number on the invoices or Applications for Payment for the specific Scope of Work.

- B. The Contractor warrants title to all Materials and Equipment covered by an invoice or Application for Payment, whether incorporated into the Work or not shall pass to Thornton upon receipt of payment to Service Provider. Contractor further warrants that upon submittal of an invoice or Application for Payment, all Work for which payment has been received from Thornton shall, to the best of Service Provider's knowledge, information and belief, be free and clear of all liens, claims, security interests and encumbrances in favor of Service Provider, Subcontractors, suppliers, or other persons or entities making a claim by reason of having provided labor, Materials or Equipment relating to the Work; and that such Materials and Equipment furnished or installed comply with the applicable requirements of the Contract Documents.

- C. Under no circumstances shall payment constitute a waiver of Thornton's right to require Contractor to fulfill all of the terms and conditions of the Contract Documents and/or the Task Assignment's Scope of Work.

VI. PAYMENT WITHHELD

- A. Thornton may withhold payment or, on account of subsequently discovered evidence, may nullify the whole or part of any payment certificate of such extent as may be necessary to protect Thornton from loss on account of any one (1) or more of the following:
 - 1. Defective Work not remedied;

2. Claims filed or notice indicating probable filing of claims of other parties against Service Provider;
3. Failure of Contractor to make payments properly to Subcontractors or to make payments for labor, Material, Equipment, Construction Equipment, or Equipment Rental;
4. A reasonable doubt that a Task Assignment's Scope of Work can be completed for the balance then unpaid;
5. Damage to a Subcontractor or another contractor;
6. Failure or refusal by Contractor to comply with an instruction from Thornton within a reasonable time;
7. Unsatisfactory prosecution of the Work;
8. Any other violation of or failure to comply with the provisions of the Scope of Work, and/or Agreement;
9. Being in arrears to Thornton for any invoices;
10. Failure to supply or update Service Provider's Schedule of Work;
11. Damage to Thornton's Property or Equipment.

VII. THORNTON ISSUED CHANGE ORDER FOR CHANGED OR EXTRA WORK

- A. Thornton's Authority to Issue Change Order. Without invalidating the Contract and without notice to any surety, Thornton may, at any time or from time to time, order additions, deletions, or revisions in the Work from the Contract Documents, or require the performance of Extra Work neither covered by Drawings or Specifications not included in Service Provider's Proposal but, at the reasonable discretion of Thornton, deemed to be a necessary part of the Scope of Work by issuing a written Change Order. Changed or Extra Work shall in no way injuriously affect to invalidate the Scope of Work, and/or Contract Documents or Service Provider's bonds and the difference in cost will be added to or deducted from the price of the Work. Contractor shall not charge for anticipated profits for any Scope of Work deleted by a Change Order.
- B. Service Provider's Change Order Proposal. Prior to preparation of a Change Order, Thornton may require Contractor to submit an estimate of the cost of the change. In this instance, Contractor shall prepare an estimate which includes an itemized cost breakdown for labor (including labor man-hours), materials, and equipment to be incorporated into the Work, Construction Equipment costs (both owned and rental equipment), Subcontractor bids,

and reimbursable expenses. Include markup on Subcontractor's estimated bids, bonds if required, insurance, and Overhead and Profit. Any Changed or Extra Work performed by Contractor without written approval from Thornton is done solely at Service Provider's risk, who waives any claim for additional compensation for Work performed without Thornton's written approval.

- C. Executed Change Order Required. Contractor shall not proceed with any Changed or Extra Work without a written Change Order approved by Thornton.
- D. Change Order Compensation. Price adjustments, if any, to the Scope of Work shall be made using one (1) or a combination of the following compensation methods as Thornton deems appropriate:
 - 1. Unit Pricing;
 - 2. Lump Sum;
 - 3. Time & Material Cost.

Contractor shall furnish satisfactory bills, payrolls, and vouchers covering all items of cost and upon requested give Thornton access to its account records.

- E. Any Changed or Extra Work becomes a part of the Scope of Work, subject to all of its terms, conditions, stipulations, review, guaranties, and tests, and Service Provider's performance, and labor and materials bonds and Contractor will provide, in writing that Surety agrees to the Changed, or Extra Work. It is Service Provider's and the Surety's joint responsibility to be aware of all Contract Change Orders and to ensure that the value of the Labor and Material Payment Bond and the Performance Bond are modified as appropriate with each Change Order. In addition, the Surety shall ensure that Service Provider's bonding limit has not been exceeded by any Change Order.
- F. Thornton shall have the authority to make minor changes that do not cause extra cost or add to Scope of Work Time, or inconsistent with the design concept and purposes of the Work. Otherwise, except in an emergency endangering life or property, no Changed or Extra Work shall be performed, and no Claim for Extra Cost is valid without a Change Order approved by Thornton.

VIII. SERVICE PROVIDER'S CLAIMS FOR CHANGED OR EXTRA WORK

- A. Notice Required. If in the opinion of Contractor a Claim for Changed or Extra Work may be required, within ten (10) Calendar Days of Contractor discovering the condition giving rise to the Request for Changed or Extra Work, Contractor shall submit, in writing, a request for a Change Order for its Claim for Changed or Extra Work to Thornton's Contract Administration

Division and simultaneously provide a copy of its Claim for Extra Cost or Extra Work request to Thornton's Representative who is (identified in/authorized by) the Task Assignment.

- B. Regardless whether Thornton and Contractor disagree if the Work is or is not Changed or Extra Work, Thornton will either issue a Change Order authorizing Contractor to proceed with the requested Work or it will not. If Contractor proceeds with the Work, it will not prejudice Service Provider's ability in any way to receive the appropriate compensation for performing the Changed or Extra Work. If, however, Contractor fails to provide written notice to Thornton as required by this provision, it shall constitute a complete waiver of Service Provider's Claim for Changed or Extra Work.
- C. Provided written notice was timely given to Thornton, Contractor will keep an accurate account of its "actual field cost" related to the Changed or Extra Work. Thereafter, Contractor shall submit all supporting documents and receipts in support of its costs related to its Claim for Changed or Extra Work within thirty (30) Calendar Days after performing the Work. Contractor understands that failing to submit accurate and complete supporting documentation within thirty (30) Calendar Days after performing the Work constitutes a complete waiver of its claim. Upon receipt of Service Provider's Claim, Thornton will make a final determination as to whether Contractor performed the Changed or Extra Work and, what, if any, amount is due to Service Provider. Thornton shall have the right to reject any Claim for Extra Cost if the foregoing procedure is not followed.

IX. EXTENSION OF TIME - Adjustments, if any, to extend the time of performance because of Changed, or Extra Work by the Parties shall be determined in accordance with the applicable terms in this **Exhibit E**.

X. SUBSTANTIAL COMPLETION, INITIAL ACCEPTANCE AND FINAL SETTLEMENT

- A. Punch List Work. When Contractor considers the Work to be substantially complete, Contractor shall make a written request to Thornton for the issuance of a Certificate of Substantial Completion. Thornton, upon receipt of the request, shall inspect the Work and either issue a written Certificate of Substantial Completion together with a Punch List, or deny Service Provider's request in writing and provide the reasons for such denial. Upon receipt of Punch List, Contractor agrees to complete the remaining Work within the time specified by Thornton. The decision as to the acceptability of the quality and workmanship shall be at Thornton's sole discretion. Contractor shall not be reimbursed for any costs incurred for correcting any unacceptable Work. Issuance of a Certificate of Substantial Completion will stop the accrual of Liquidated Damages.

- B. Initial Acceptance. Contractor shall notify Thornton’s Representative in writing when all Punch List work of a specific Task Assignment’s Scope of Work is complete and ready for final inspection. When all Punch List Work is complete to Thornton’s satisfaction, Thornton will issue a letter of Initial Acceptance, which will also commence the Warranty Period for that particular Scope of Work. Contractor shall submit a final invoice or Application for Payment to Thornton after Initial Acceptance is granted.

- C. Publication of Final Settlement. Upon Thornton issuing an Initial Acceptance letter for any Scope of Work, that exceeds fifty thousand dollars (\$50,000), Thornton will advertise for verified claims in accordance with 38-26-101 et. seq. C.R.S. If the Scope of Work is less than fifty thousand dollars (\$50,000), at Thornton’s sole option, Thornton may or may not publicly post the Notice of Final Settlement. After the advertisement period, Thornton will release Final Payment for that Task Assignment to Service Provider.

- D. Verified Statement of Claim. If a verified claim is filed with Thornton during the prescribed timeframe, Thornton will retain an amount sufficient to cover the verified claim(s). Thornton must either receive a Release of Claim for Thornton to release the retained amount, or verify that the claimant has not commenced any action within the specified timeframe, before Thornton will release the retained amount when the waiting period ends. If the claimant does file an action in court, Thornton may petition the court to accept the retained funds for placement in the courts registry.

XI. FINAL ACCEPTANCE - If applicable, near the conclusion of the Warranty Period of a specific Task Assignment’s Scope of Work, Thornton will schedule a Warranty Inspection and prepare list of any outstanding and remaining Work items (“Warranty Punch List”). Upon receipt of a Warranty Punch List, Contractor shall repair or replace all Warranty Punch List items in the time frame specified by Thornton. Contractor shall notify Thornton when all the items on the Warranty Punch List Work are completed. After all Warranty Punch List Work is complete to Thornton’s satisfaction, Thornton will issue a written Final Acceptance letter for the specified Task Assignment’s Scope of Work to Service Provider.

XII. COORDINATION WITH THORNTON AND OTHER CONTRACTORS – Contractor is advised that completion of the Scope of Work in accordance with the Contract Documents may require coordination with Thornton personnel and other trades and/or contractors under separate contracts with Thornton. Special efforts will be made by Contractor to cooperate with other entities that may be on the site and to not interfere with or delay others in the prosecution of their work.

XIII. EMERGENCY PROTECTION

- A. After Thornton issues a Notice to Proceed for a Task Assignment, up to and through Initial Acceptance, it is Service Provider’s responsibility to protect and maintain the safety of the general public, and the personnel of Contractor and

Subcontractors – twenty-four (24) hours a day, seven (7) days a week. This responsibility shall continue up to and after Initial Acceptance whenever Contractor is on site performing any Guaranty/Warranty Work.

- B. If, in the opinion of Thornton, Contractor has not taken sufficient precautions to protect the safety of the general public, adjacent structures and property, the Work identified as the Scope of Work in a Task Assignment, Thornton may, with or without providing notice to Service Provider, take reasonable action and use any Materials and Equipment required to protect and maintain the same. The cost of the Work, Materials and Equipment shall be borne by Service Provider. No such costs shall be included in the Cost of Work, and if Contractor does not pay it, Thornton will deduct the costs from any amounts due or which become due to Service Provider. The performance of such emergency Work shall not relieve Contractor of responsibility for any damage that may occur.

XIV. EXISTING UTILITIES, EASEMENTS, AND R.O.W.

- A. Contractor shall notify the "Notification Association" in a timely fashion required by Section 9-1.5-101, C.R.S., et. seq. ("Excavation Requirements"). Contractor shall request written record of any information from all owners or operators, other than Thornton, of underground facilities as defined in the Excavation Requirements statute regarding the location of the specific underground facilities. Contractor shall comply with all requirements of Article 1.5 of Title 9, C.R.S. as it pertains to the "excavator".
- B. Thornton shall not be responsible for the accuracy or completeness of any information provided by third-party owners or operators of underground facilities, including the marking thereof.
- C. The locations of underground facilities that are owned or operated by Thornton shall be identified by Thornton either in the drawings or in the field. As part of the Work, Contractor shall, on behalf of Thornton, mark the location of such facilities as required by Article 1.5 of Title 9, C.R.S.
- D. In the event that Drawings and Specifications indicate that the location of any underground facilities owned or operated by Thornton are "unknown", "uncertain" or within a "range", Contractor shall have full responsibility for determining the exact location of such underground facilities by "potholing", "handwork" or such other means as may be necessary to determine the precise location without damaging such underground facilities. Contractor shall incorporate the precise location of such underground facilities into the Record Drawings.
- E. The cost of all of the following will be included in the Cost of Work and Contractor shall have full responsibility for:

1. Reviewing and checking all information and data provided by all owners or operators of underground facilities;
 2. Locating all underground facilities shown or indicated in the Contract Documents;
 3. Coordination of the Work with the owners and operators of all underground facilities during performance of the Work; and
 4. The safety and protection of all such underground facilities and repairing any damage thereto resulting from the Work.
- F. If an underground facility is uncovered, revealed at or contiguous to the site that was not shown or indicated in the Task Assignment's Scope of Work or the information provided pursuant to Excavation Requirements statute, Contractor shall, after becoming aware of the unidentified underground facility and before disturbing the effected conditions or performing any Work (except in emergency situations), promptly give written notice to the identified owner, the "Notification Association" and Thornton. Contractor shall incorporate the location of all underground facilities into the Record Drawings. Thornton will review the underground facility and determine to what extent, if any, what change is required in the Task Assignment's Scope of Work to document the consequence of the newly identified underground facility. During such time, Contractor shall be responsible for the safety and protection of such underground facility.
- G. Contractor may request adjustments to the price, the Scope of Work Time, or both, to the extent that the change is necessitated by the existence of any underground facility that is not shown or indicated in the Task Assignment's Scope of Work and Contractor did not reasonably know about or was not reasonably foreseeable. If Thornton and Contractor are unable to agree on the amount or additional time, Contractor may make a claim as provided in the Agreement. However, Thornton shall not be liable to Contractor for any claims, costs, losses or damages incurred or sustained by Contractor on or in connection with any other project or anticipated project.

XV. MATERIALS, EQUIPMENT, SUPPLIES, SERVICES, AND FACILITIES

- A. It is understood that, except as otherwise specifically stated in the Contract Documents, Contractor shall provide and pay for all Materials and Equipment, Construction Equipment, including rental equipment, light, fuel, water, power, transportation, superintendence, temporary facilities of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the Work in a Good and Workmanlike Manner within the specified Scope Time.

- B. No Materials or Equipment for the Work shall be purchased by Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller.

XVI. POTENTIALLY DANGEROUS WORK

- A. When the use of explosives, driving or removal of piles, wrecking, excavation Work or other similarly potentially dangerous Work is necessary for the prosecution of the Work, Contractor shall exercise the utmost care so as not to endanger life or property. Contractor shall be fully responsible for any and all damages, claims, and for the defense of any actions against Thornton resulting from the prosecution of such Work in connection with or arising out of the Agreement.
- B. Contractor shall notify each public utility company or other owner of property having structures or improvements in proximity to the site of the Work, of his intent to perform potentially dangerous Work. Such notice shall be given sufficiently in advance to enable the companies or owners of property to take the steps they may deem necessary to relieve Contractor of the responsibility for any damages, claims or the defense of any actions against Thornton resulting from the performance of such Work in connection with or arising out of the Agreement.
- C. All explosives shall be stored in a secure manner and all storage places shall be marked clearly "EXPLOSIVES - KEEP OFF", and shall be in the care of competent watchmen at all times.

XVII. SEPARATE CONTRACTS

- A. Thornton reserves the right to let other contracts in connection with the Work, to include deletions in portions of Work covered under this Agreement. Contractor shall afford other contractors reasonable opportunity for the introduction and storage of their materials, machinery, equipment, supplies, and the execution of their work, and shall properly connect and coordinate the Work.
- B. If any part of Service Provider's Work depends upon the work of any other contractor for proper execution or results, Contractor shall inspect and promptly report in writing to Thornton any lack of progress or defects in the other contractor's work that render it unsuitable for proper execution or results. Failure on the part of Contractor to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of Service Provider's Work. No extra time will be allowed to Contractor for failure on the part of Contractor to inspect and report on the above-mentioned unsuitable work.

- C. To insure the proper execution of this subsequent Work, Contractor shall measure existing work and shall at once report in writing to Thornton any incompatibility between the existing work and the Work anticipated by the Contract Documents.

XVIII. AGREEMENT IN DEFAULT

- A. Thornton may declare the Agreement in default for any one (1) or more of the following reasons as determined by Thornton in its sole discretion:
 - 1. Failure to complete the Work within the Scope of Work Time or any proper extension thereof granted by Thornton.
 - 2. Failure or refusal to comply with an instruction of Thornton within a reasonable time.
 - 3. Failure or refusal to remove and replace rejected Materials or Equipment.
 - 4. Failure or refusal to perform any Work or repair any Defective or unacceptable Work.
 - 5. Bankruptcy or insolvency, or the making of an assignment for the benefit of creditors.
 - 6. Failure to provide a qualified Superintendent, or sufficient and competent workmen or Subcontractors to carry on the Work in a satisfactory and Good and Workmanlike Manner; or failure to prosecute the Work in accordance with Service Provider's Schedule of Work.
 - 7. Failure to provide proper Materials and Equipment.
 - 8. Failure to comply with any important provisions of this Agreement as determined by Thornton.
 - 9. Disregard of laws, ordinances, rules, or regulations or order of any public body having jurisdiction, or the violation of any safety codes.
 - 10. Failure to prosecute the Work with sufficient competence or rapidity to insure the proper completion of the Work within the Scope of Work Time.

B. Agreement in Default- Procedure for Declaring Default

1. Thornton may declare the Agreement in default by giving written notice to Service Provider. The written notice shall contain the reason or reasons for default. If Contractor fails within seven (7) Days after receipt of written notice from Thornton to commence and continue correction of such default, Thornton shall give Contractor a second written notice to correct the default within a three (3) Day period. If Contractor fails to promptly commence and continue satisfactory correction of the default following receipt of such second notice, Thornton without prejudice to any other rights or remedies, may at its sole option, declare the Agreement in default and, if necessary, take one (1) or more of the following actions:
 - a. Terminate the Agreement or the Task Assignment;
 - b. Complete the Work utilizing any reasonable means;
 - c. Withhold any payment due to Service Provider;
 - d. If Thornton deems it necessary, supply workers, materials and equipment for the satisfactory correction of the default, and charge Contractor the costs and expenses, including reasonable overhead, profit and attorneys' fees.

XIX. REMEDY OF DEFECTS - If, in the opinion of Thornton, a defect exists or is found, or functional or structural deterioration has occurred, or there is a substantial departure from the standards of original condition in the existing Work or improvements as stated in the Guaranty or Warranty, Thornton shall send written notice to Contractor to the address noted in the Agreement, or the last known business address. The Parties mutually agree that such notice shall be sufficient and adequate. Upon receipt of the notice, Contractor shall proceed to remedy such defects, deficiencies, deterioration, or departures contained in the notice within seven (7) consecutive Calendar Days after receiving the notice. Alternatively, Thornton may do the repairs as it deems best, and the entire cost shall be paid by Contractor and/or its Surety, or may be deducted from any amounts due or that become due to Contractor from Thornton.

XX. CALLBACKS, SUSPENSION AND TERMINATION

- A. Callbacks. In the event that Thornton deems the Work performed to be deficient or unsatisfactory ("Defective Work"), Contractor shall be notified verbally and in writing of the Defective Work ("Callback") and Contractor will immediately take steps to correct all of the Defective Work. Thornton's notice will include the date by which Contractor must repair, correct and complete the Defective Work. If Contractor fails to correct the Defective Work by the date in the Callback notice to the reasonable satisfaction of Thornton, Thornton will send a second Callback notice to Contractor indicating the

Defective Work has not been corrected and requesting Contractor to correct the Defective Work immediately or provide a date when the Defective Work will be corrected. If, after sending a third Callback notice to Service Provider, the Defective Work is not corrected to the reasonable satisfaction of Thornton, Contractor will have breached the specific Task Assignment or this Agreement and, at the sole discretion of Thornton, may be terminated.

- B. Suspension of Work by Thornton. Thornton has the right to suspend and reinstate all or any part of the Work of any Task Assignment without invalidating the provisions of this Agreement in any way for such period or periods of time as Thornton may deem necessary due to unsuitable weather or such other conditions considered unfavorable for the suitable prosecution of the Work, including, in part, failure to adequately supply labor, Materials or Equipment meeting the requirements of the Contract Documents; or failure to carry out instructions; or to perform such other provisions of this Agreement considered unfavorable for the orderly or suitable prosecution of the Work. During the suspension period, Contractor will properly protect the Work from possible damage. Thornton shall issue, in writing, to Service Provider, orders for the suspension and reinstatement of the Work.
- C. Right of Thornton to Terminate. Should it appear any time that the Work is not being prosecuted with sufficient competence or rapidity to insure the proper completion of the Work within the Scope of Work Time and, after giving Contractor a seven-Calendar Day (7) written notice to correct its performance, Contractor fails to increase the quality or the quantity of his Work or both, Thornton reserves the right to terminate the Task Assignment and relet the Work or any part thereof, to another contractor(s) to complete the Work. Contractor shall not be entitled to any claims for damages because of such termination, and will be held liable for the costs and expenses incurred by Thornton to relet or complete the Task Assignment's Scope of Work. All money due Contractor will be retained until the Work is complete and all expenses and costs have been deducted and any money due Thornton, after such deductions have been made, shall be paid by Contractor who hereby agrees to these provisions.
- D. Effects of Termination
1. Termination Notice. Thornton may terminate this Agreement, in whole or in part, if such determination is in Thornton's best interest. Termination of this Agreement or a Task Assignment will be by a written Termination Notice to Contractor specifying the effective date of termination.
 2. Canceled Commitments. Service Provider, after receiving the Termination Notice, shall cancel any outstanding commitments for procurement of Materials and Equipment. In addition, Contractor shall use reasonable effort to cancel or divert any outstanding subcontracted

commitments to the extent they relate to any Work terminated unless otherwise requested by Thornton. With respect to such canceled commitments Contractor shall:

- a. Settle all outstanding liabilities and all claims arising out of these canceled commitments. Such settlements shall be approved by Thornton and shall be final; and
 - b. Assign to Thornton all of the rights, title and interest of Contractor under the terminated orders and subcontracts as directed by Thornton. Thornton will then have the right to settle or pay any or all claims arising out of the termination of these commitments.
3. Termination Claim. Contractor shall submit its termination claim to Thornton within thirty (30) Calendar Days after the effective date received in the Termination Notice. During the thirty (30) Calendar Day period, Contractor may make a written request to Thornton for a time extension in preparing the claim. Thornton must approve any time extension. If Contractor fails to submit its termination claim within the time allowed, Thornton may determine the amount due Service Provider, if any, by reason of the termination.
4. Payment. Subject to Paragraph 3 above, Contractor and Thornton may agree upon the whole or any part of the amount to be paid Contractor as a result of the termination. The amount may include reasonable cancellation charges incurred by Service Provider. The amount may also include any reasonable loss upon outstanding commitments for subcontracts, which Contractor is unable to cancel, provided Contractor has proven reasonable effort to divert the commitments to other activities. The amount agreed upon by the Parties shall be in a Change Order and be the full and final payment to Service Provider. Payments claimed and agreed to pursuant to termination shall be based on the Cost of the Work incurred up to the effective date of the Termination Notice.
Thornton may from time to time, under the terms and conditions it may prescribe, make partial payment against costs incurred by Contractor in connection with the termination. The total of such payments shall not exceed the amount Contractor is entitled to as determined by Thornton.
5. Disposition of Work and Inventory. Contractor shall transfer title and deliver to Thornton, all items which, if the Scope of Work had been completed, would have been furnished to Thornton including:
 - a. Completed and partially completed Work;

- b. Materials or Equipment produced, acquired or in the process of being acquired in connection with the performance of the Work.

Other than as previously stated above, the inventory resulting from termination may, with the written approval of Thornton, be sold or acquired by Contractor under the prescribed conditions and prices approved by Thornton. The proceeds shall be applied to reduce any payments to Contractor under the Scope of Work or shall otherwise be credited to the Cost of Work covered by this Agreement, or paid in a manner as directed by Thornton. Until final disposition, Contractor shall protect and preserve all the Material and Equipment in its possession related to the Contract Documents which Thornton has or may have an interest.

6. Cost Records. Contractor agrees to make cost records available to the extent it is necessary to determine the validity and amount of each item claimed.
7. Contractual Responsibilities. Termination of a portion or the entire Agreement or any Task Assignment's Scope of Work shall not relieve Contractor of its contractual responsibilities for the completed Work.

XXI. THORNTON'S REMEDIES CUMULATIVE AND NONWAIVER - No right or remedy conferred upon or reserved to Thornton by the Agreement shall be considered exclusive of any other remedy or contractual right, but the same shall be distinct, separate, and cumulative, and shall be in addition to every other remedy existing at law or in equity or by statute; and every remedy given by the Agreement to Thornton may be exercised from time to time as often as the occasion may arise, or as may be deemed expedient. No delay or omission on the part of Thornton to exercise any right or remedy arising from any default on the part of Contractor shall impair such right or remedy or shall be construed to be a waiver of any such default or an acquiescence thereto, or otherwise affect the right of Thornton to enforce the same in the event of any subsequent breach or default by Service Provider.

XXII. USE OR OCCUPANCY OF COMPLETED PORTIONS

- A. Thornton shall have the right to take possession of, use, or occupy any completed or partially completed portions of the Work, notwithstanding whether the time for completing the entire Task Assignment's Scope of Work or any portions, may, or may not, have expired. Thornton taking possession of, using or occupying any completed portions shall not be deemed an acceptance of the Work until all Work has been completed in accordance with the Contract Documents.
- B. If such prior use or occupancy increases the cost, or delays the Work, Contractor shall be reimbursed for the additional costs as a Cost of the Work,

or shall be granted an adjustment to the Scope of Work Time, or both, as Thornton may agree.

- C. Contractor shall secure the Consent of Surety and endorsement from the insurance carrier or carriers permitting prior to the occupancy or use of any completed or partially completed portions of the Work by Thornton. Contractor and its Surety and insurance carrier hereby agree that such consent shall not be unduly withheld.

XXIII. WORKMANSHIP, MATERIALS, AND EQUIPMENT

- A. All Material and Equipment furnished by Contractor shall be new and unused and shall strictly conform to the Contract Documents. Competent labor, mechanics, and tradesmen shall be used on the Work. Experienced manufacturer's representatives shall be used to supervise the installation of Equipment as may be required by Thornton. Any special tools or Construction Equipment that may be required shall be provided by Service Provider.
- B. The acceptance at any time of Materials and Equipment by or on behalf of Thornton shall not be a bar to future rejection if they are subsequently found to be defective, inferior in quality or uniformity to the specified Material and Equipment, or are not as represented to Thornton.

XXIV. AGREEMENT SIGNATURE – Contractor is required to return the signed Agreement with all appropriate Insurance Certificates within ten (10) Calendar Days of receipt the Notice of Award.

XXV. CERTIFICATES AND GUARANTIES - Four (4) copies of any manufacturer's guaranty/warranty or certificate for any type of Material or Equipment provided shall be submitted to Thornton as a condition precedent to granting Initial Acceptance of the Work for a given Task Assignment.

XXVI. CONTINUATION OF SERVICE - Utility service shall be maintained to all buildings at all times during the Work period, except when it is necessary to shut down equipment and services to complete the Work. Contractor must submit a request for service shut down to Thornton, in both verbal and written form, no later than two (2) Working Days prior to the desired shut down of utilities and services such as, but not limited to, electrical, telephone, gas, sewer, or water service, or any other equipment or service which will cause disruption to Thornton's operations. No shut down of services shall occur without written permission from Thornton.

XXVII. SERVICE REQUIREMENTS

- A. Service Provider's work hours shall be as approved or directed by Thornton.

- B. It is Service Provider's responsibility to insure that the Work site is maintained in a safe and hazard free manner. No trenches, holes, or other excavations shall be permitted to remain open more than twenty-four (24) hours. Contractor shall secure all exterior Work areas with temporary safety fencing and/or barricades (as appropriate) at all times.
- C. Contractor shall furnish all labor, equipment, tools, and materials for completing the Work as specified by Thornton. Thornton is not responsible for any loss or damage to equipment, tools, or other related material during the Work.

XXVIII. GENERAL WARRANTY - Contractor warrants all the Work complies with the City of Thornton's Standards and Specifications, its governing building codes and this Agreement. Contractor warrants all the Work will be performed in a good and workmanlike manner and at or above industry quality standards.

XXIX. MATERIALS AND EQUIPMENT WARRANTY

- A. In addition to other promises and warranties contained herein, Contractor specifically warrants to Thornton that Materials and Equipment furnished the Contract Documents require will be of good quality and new unless otherwise required or permitted by the Contract Documents, that the Work will be free from defects not inherent in the quality required or permitted, and that the Work will conform with the requirement of the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered Defective. Service Provider's warranty excludes remedy for damage or defect caused by abuse, modifications not executed by Service Provider, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by Thornton, Contractor shall furnish satisfactory evidence as to the kind and quality of Materials and Equipment.
- B. Neither the final payment for a Task Assignment nor any provision in the Scope of Work shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve Contractor of liability in respect to any expressed or implied warranties or responsibility for faulty Materials or Equipment or workmanship. This Warranty will have no time limit except those prescribed by law.
- C. Service Provider's costs incurred during the warranty phase for repair or replacement of Materials or Equipment shall be considered as having been compensated under Service Provider's markup for Overhead and shall not be paid for separately by Thornton as a Cost of the Work.

XXX. ACCESS - Once Work has commenced in a roadway or other area subject to vehicular traffic, including bicycles, Contractor shall provide and maintain access and safe travel conditions by ramping or surfacing with suitable materials to insure safe travel at all times. If, in the opinion of Thornton, the products used and/or the maintenance methods provided are not capable of safely supporting the anticipated vehicular traffic, Contractor shall either immediately remove the existing products and provide higher quality products, up to and including placement of temporary hot mix asphalt, increase the frequency of maintenance, or both, as may be directed by Thornton. The provision of products and their maintenance to assure access and safe travel shall be included in the Contract Price. Failure to comply with this requirement may, at Thornton's sole discretion, result in the Work or a portion of the Work being suspended until the situation is corrected. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Time as a result of its failure to properly maintain products. Should Contractor not perform the necessary patching and maintenance in a timely manner, Thornton may, at its option, have the work performed by others and may deduct the cost from amounts due or that become due to Service Provider. Contractor shall assure that safe access to public facilities including, but not limited to, parking lots, picnic shelters, playgrounds, and pedestrian ways is provided. Any disruption to the public's normal use of said facilities shall not occur without the express written permission of Thornton.

XXXI. ACCESS BY PRIVATE PROPERTY OWNERS - Contractor shall insure that private property owners' access from the street or alleyway to their private property is not restricted except during limited times during normal working hours. When access to a private property cannot be continuously maintained during normal working hours, Contractor must obtain permission from the Owner for temporary closures and shall personally provide written and verbal notice to the affected property owners a minimum of twenty-four (24) hours in advance of the closure. Emergency vehicle and hospital access shall not be blocked at any time for any reason.

XXXII. TAX EXEMPT STATUS

- A. Thornton represents that it is exempt from Colorado State and City of Thornton sales and use taxes on Materials and Equipment to be permanently incorporated into the Work. No taxes of any kind shall be charged to Thornton. Contractor shall pay all sales, consumer, use, or other similar taxes required to be paid in accordance with the laws and regulations applicable to the Work. Said taxes shall not be included in the Service Provider's Proposal, invoice or Application for Payment.
- B. Contractor shall apply to the Colorado Department of Revenue for an exemption certificate and purchase the Materials and Equipment tax free (Section 39-26-104, C.R.S. as amended). Contractor shall be liable for exempt taxes paid due to the failure to apply for exemption certificates or failure to use them.

XXXIII. TRAFFIC CONTROL

- A. Adequate traffic flow shall be maintained at all times, all barricading and temporary signage for detours and traffic control must meet the standards as set forth in the most current edition of the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the Colorado Department of Transportation and as adopted by the United States Department of Transportation Federal Highway Administration and requirements of Thornton's Traffic Engineer. Public safety is Service Provider's responsibility:
- B. Except for alleyways, one (1) lane of the roadway for each direction must be kept open at all times, or if this cannot be achieved, then sufficient flag persons must be provided to properly channel traffic at all times when there is only one (1) lane.
- C. For all ROW requiring closure for any Work, appropriate permits shall be obtained. Prior to start of Work, Contractor shall provide Thornton's Traffic Engineering Division with planned traffic control methods and procedures for the Task Assignment.

XXXIV. WATER USE - Use. All water used by Contractor for testing, compaction, dust control or other uses related to construction of the Work shall be recorded by a meter furnished by Thornton, and the water shall be obtained from a location specified by Thornton. A refundable deposit for meter use shall be paid to Thornton's water utility by Contractor. Water use shall be metered and paid for by the Contractor at the current rate per 1,000 gallons as published by Thornton. Contractor shall be responsible for paying a monthly water meter rental charge. The rental charge and all water usage shall be included in the Contract Price. The meter is required to be returned to Thornton every six (6) months for maintenance and calibration. If there are any damages to the meter and/or any missing parts, the cost of repair and/or replacement of parts will be deducted from Contractor's deposit.

XXXV. WEATHER - During weather unsuitable for the proper execution of the Work in a first-class manner, all Work affected by such condition shall be properly protected from weather-related damage.

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EXHIBIT G

LABOR AND MATERIAL PAYMENT BOND [On-Call Agreement/Contract]

The **City of Thornton**, a home rule municipality, located at 9500 Civic Center Drive, Thornton, Colorado 80229 (“Thornton” or “Obligee”) and [Contractor’s full name and type of legal entity] (Contractor), having an office at [Contractor’s address] have entered into a Agreement with a Notice of Award dated of _____, 20____ for a General Service Agreement *for Services on, as needed basis* the “Agreement” in connection with Contracted Paving, Project No. 26-23G (the “Project”).

By virtue of this Bond, Contractor as Principal, and (**Surety’s full name**)

_____ having an office at (**Surety’s address**) _____

(the “Surety”) as the Principal and Surety are firmly bound to Thornton, for the benefit of Claimants, in the amount of \$[spell out dollar amount here] Dollars (\$XXXXXXXX). Claimants means, without limitation, an individual or entity contracting directly with Contractor or with a subcontractor of Contractor to furnish labor and materials for use in the performance of the Agreement and also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or state statute against Contractor for the Project.

Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, to pay for labor, materials and equipment furnished by Claimants for the performance of the Agreement for the specified Work and Thornton authorized by issuing Purchase Order No. ____ dated _____.

I. BOND TERMS

- A. The Agreement by this reference is incorporated into this Labor and Material Payment Bond.
- B. Surety waives notice of any change made by Thornton, including changes of time, to the Agreement or to related subagreements, purchase orders and other obligations.
- C. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds Thornton harmless for claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Agreement, Surety shall have no further obligations under this Bond. If Contractor] fails to promptly make payment of all sums due to Claimants, Contractor’s, and Surety's obligations under this Bond shall remain in full force and effect, and be subject to the following:

1. Claimants that directly contract with Principal, or with a subcontractor of the Principal, for labor and materials or a combination of both used or reasonably required for use in the performance of the Agreement. Labor and materials include without limitation all and any part of water, gas, power, light, heat, oil, gasoline, equipment, telephone service or rental equipment used in the Agreement, and, if applicable, architectural and engineering services required for performance of the Work by Contractor and its subcontractors, and all other items that may be subject to filing a claim under this Bond.
2. The above-named Principal and Surety hereby jointly and severally agree that every claimant, who has not been paid in full before the expiration of ninety (90) Calendar Days after the date on which the last Claimant's Work or labor was done or performed, or furnished materials, may sue on this Bond, prosecute the suit to final judgment, and execute it to recover any and all sums justly due to Claimant. Thornton shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced by any Claimant:
 - a. Until Claimant, other than a Claimant that directly contracts with the Principal, has given written notice to Principal, Thornton, and Surety, within ninety (90) Calendar Days after Claimant last performed Work or labor, or furnished materials. The notice for which the claim is made, must state with substantial accuracy the amount claimed, and the name of the party to whom the materials were furnished, or for whom the labor was performed. Notice shall be delivered by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Thornton and Surety, at the place where an office is regularly maintained for the transaction of business, or it may be served in any manner by which legal process is served in the state where the Project is located, however, service need not be made by a public officer;
 - b. After the expiration of six (6) months from the date Principal stopped performing the Work pursuant to the Agreement. It is understood that if any time limitation embodied in this Bond is prohibited by law controlling such limitation, this Bond shall be deemed amended to equal the minimum period of time limitation as such law permits;
 - c. Other than in a state court of competent jurisdiction in, and for the county or other political subdivision of the state where the Project, or any part of it is situated, or in the United States District Court of the District where the Project, or any part it is situated, and no other place.

Signed and sealed this _____ day of _____ 20__.

Witness

Principal

Title

Title

Witness

Surety

Title

Title

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EXHIBIT G

PERFORMANCE BOND [On-Call Agreement/Contract]

The **City of Thornton**, a home rule municipality, located at 9500 Civic Center Drive, Thornton, Colorado 80229 (“Thornton” or “Obligee”) and **Contractor’s name and type of legal entity**. **[Enter Contractor]**, having an office at **[enter Contractor’s address]** have entered into an **[enter Agreement]** with a Notice of Award dated _____, 20____ for General services Agreement *for Services on as-needed basis* (Agreement) in connection with Contracted Paving, Project No. 26-23G (the “Project”).

By virtue of this Bond, Contractor as Principal, and **(Surety’s full name)**_____ having an office at **(Surety’s address)** _____ (the “Surety”). The Principal and Surety are firmly bound to Thornton, for the maximum amount of \$ **[spell out dollar amount here]** Dollars **[\$XXXXXXXX]** (the "Bond Sum").

Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, to Obligee for the performance of the Work this Project requires and Thornton authorized by issuing Purchase Order No. _____ dated _____.

I. BOND TERMS

- A. The Agreement by this reference is incorporated into this Performance Bond.
- B. If Contractor performs its Agreement obligations [the ("Work")] as required, Surety shall have no further obligations under this Bond. If Contractor does not perform the Work, Surety's obligations under this Bond shall remain in full force and effect.
- C. Surety waives notice of any change made by Thornton, including changes of time, to the Agreement or to related subagreements, purchase orders and other obligations.
- D. If Contractor is in default on the Agreement, and Thornton has performed its obligations under the Agreement, Surety shall promptly and at the Surety's expense take one (1) of the following actions:
 - 1. Surety may promptly remedy the default;
 - 2. Surety shall promptly;
 - a. With Thornton’s consent, complete the Agreement in accordance with its terms and conditions using its agents or independent Contractors;

- b. Obtain one (1) or more bids from lowest, qualified Contractors acceptable to Thornton to complete the Agreement in accordance with its terms and conditions;
- c. Arrange for a Contractor acceptable to Thornton, to complete the Work in accordance with its terms and conditions of the Agreement and secured by performance and payment bonds issued by a qualified surety. Surety will ensure sufficient funds are available to pay the cost to complete the Work as it progresses, and other costs and damages Surety may be liable to pay, minus the balance of the Agreement price, up to Bond Sum indicated in the first paragraph of this Performance Bond. The term "balance of the Agreement price" as used in this subsection c, means the total amount payable by Thornton to Contractor under the Agreement and any Agreement Change Orders thereto, less the amount properly paid by Thornton to Contractor.

II. ADDITIONAL TERMS

- A. **Duration.** This obligation will run continuously, and will remain in full force and effect until and unless the Bond is terminated and cancelled as provided in the Agreement or as otherwise provided by law.
- B. **Bond Venue.**
 - 1. The venue for any action, dispute or proceeding initiated in connection with this Bond will be District Court in and for the County of Adams, State of Colorado.
 - 2. Any suit under this Bond must be instituted before the expiration of two (2) years from the date on which final payment under the Agreement falls due.
- C. **No Other Beneficiaries.** No right of action shall accrue on this Bond to or for the use of any person or corporation other than Thornton.
- D. **Severability.** If one (1) or more of the provisions of this Bond are determined to be illegal or unenforceable by a court of competent jurisdiction, all other provisions will remain effective.

Signed and sealed this _____ day of _____, 20_____.

Witness

Principal

Title

Title

Witness

Surety

Title

Title

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VIII. EXHIBIT 3

REFERENCE AUTHORIZATION AND RELEASE FORM

By: _____, A Corporation
 _____, A Partnership whose address is:
 (Proposing firm) An Individual

Proposing Firm has submitted a sealed proposal to the City of Thornton (Thornton) for engineering services for the Contracted Paving, Project No. 26-23G (Project).

Proposing Firm hereby authorizes Thornton to perform such investigation of proposing firm as it deems necessary to verify the qualifications, responsibility, trustworthiness and financial ability of Proposing Firm. By its signature hereon, the proposing firm authorizes Thornton to obtain reference information concerning the proposing firm. Proposing Firm further agrees to release and hold Thornton and the firm or agency providing reference information harmless from all liability resulting from providing the requested reference information to Thornton about the Proposing Firm.

Proposing Firm further authorizes Thornton to discuss and release reference information regarding Proposing Firm's performance as it will relate to this upcoming Project upon receiving a request for such information. Proposing Firm agrees to release and hold Thornton harmless from all liability associated with releasing such information about Proposing Firm.

Proposing Firm further waives its right to receive copies of reference information provided to Thornton. By signing below, Proposing Firm agrees with the terms of this Reference Authorization and Release and authorizes Thornton to obtain reference information concerning Proposing Firm.

A copy or facsimile of this executed Reference Authorization and Release Form may be used with the same effectiveness as an original.

 Signature

 Date

 Print Name

 Title