

CONTRACT FOR CONSTRUCTION

THIS CONTRACT FOR CONSTRUCTION (“**Contract**”) is made and entered into as of the date stated on the City’s signature page below (the “**Effective Date**”) by and between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado acting on behalf of its Department of Aviation (the “**City**”), and **SKY BLUE BUILDERS LLC**, a Colorado limited liability company (“**Contractor**”) (collectively the “**Parties**”).

W I T N E S S E T H

WHEREAS, the City, for at least three (3) consecutive days, advertised that proposals would be received for furnishing all labor, tools, supplies, equipment, materials and everything necessary and required for the construction and installation of the work under Invitation for Bid No. 202475736-00, Level 5 Domes & Ramps Adjustments at Denver International Airport (“**DEN**”); and

WHEREAS, a proposal in response to said advertisement have been received by the Chief Executive Officer of DEN (the “**CEO**”), who has recommended that a contract for the work be made and entered into with Contractor, which was the lowest, responsive, qualified bidder; and

WHEREAS, Contractor is qualified, willing, and able to perform the work in accordance with its proposal and the Contract Documents defined below;

NOW, THEREFORE, for and in consideration of the compensation to be paid by the City to Contractor and the other terms and conditions of this Contract, the Parties agree as follows:

1. CONTRACT DOCUMENTS:

It is agreed by the Parties that the instruments, drawings, and documents described below and whether attached to and bound with this Contract or not (the “**Contract Documents**”), are incorporated into the Contract by this reference, and are as fully a part of this Contract as if they were set out here verbatim and in full:

- Contract
- Notice to Proceed
- Form of Final Receipt
- Building Information Modeling (“**BIM**”) if applicable
- Change Directives
- Change Orders
- Appendix No.1 Federal Appendices
- Exhibit A Scope of Work
- Exhibit B City Equal Employment Opportunity Provisions
- Exhibit C Insurance Requirements
- Exhibit D Prevailing Wage Schedules

- Exhibit E Special Conditions
- Exhibit F Standard Specifications for Construction General Contract Conditions (2011 Edition) (the “Yellow Book”) (“General Conditions”) (Table of Contents attached as Exhibit F)
- Exhibit G Performance Bond
- Exhibit H Payment Bond
- Exhibit I Technical Specifications
- Exhibit J Contract Drawings
- Exhibit K Invitation for Bids and Contractor’s Response to Invitation for Bids
- Exhibit L Structural Calculations

In the event of an irreconcilable conflict between a provision of Section 1 through 32 of this Contract document and any other provisions of the Contract Documents such that it is impossible to give effect to both, the order of precedence to determine which document shall control to resolve such conflict is as follows, in descending order:

1. Appendix No.1 Federal Appendices
2. Exhibit A Scope of Work
3. Contract
4. Change Directives
5. Change Orders
6. Exhibit B City Equal Employment Opportunity Provisions
7. Exhibit E Special Conditions
8. Exhibit F Standard Specifications for Construction General Contract Conditions (2011 Edition) (the “**Yellow Book**”) (“**General Conditions**”) (Table of Contents attached as Exhibit F)
9. Exhibit C Insurance Requirements
10. Exhibit D Prevailing Wage Schedules
11. Exhibit I Technical Specifications
12. Exhibit J Contract Drawings
13. Exhibit L Structural Calculations
14. Exhibit K Invitation for Bids and Contractor’s Response to Invitation for Bids
15. Exhibit G Performance Bond
16. Exhibit H Payment Bond
17. Notice to Proceed
18. Form of Final Receipt
19. Building Information Modeling (“**BIM**”) if applicable

The remaining order of precedence is established in General Conditions Title 4.

2. SCOPE OF WORK:

Contractor shall furnish all labor and tools, supplies, equipment, superintendence, materials, and everything necessary for and required to do, perform, and complete all of the work described, drawn, set forth, shown, and included in the Contract Documents (the “**Work**”).

3. TERM OF CONTRACT:

The Senior Vice President, Design, Engineering and Construction (the “**SVP**”) will issue a written notice to proceed to Contractor (the “**Notice to Proceed**”), and Contractor shall begin performing the Work required under this Contract within ten (10) days of such Notice to Proceed (the “**Commencement Date**”). Contractor shall fully complete the Work in its entirety within 186 consecutive calendar days from the date of the Notice to Proceed (“**Contract Time**”). Contractor is not authorized to commence work prior to its receipt of the Notice to Proceed.

4. TERMS OF PAYMENT:

The City agrees to pay Contractor for the performance and completion of all of the Work as required by the Contract Documents, and Contractor agrees to accept as its full and only compensation therefor, a total amount of **Five Million One Hundred Fifty-Six Thousand One Hundred Sixty-Five and No Cents (\$5,156,165.00)** (the “**Maximum Contract Amount**”). In no event will the City’s liability exceed the Maximum Contract Amount, as adjusted by duly authorized Change Orders in accordance with this Contract. The Parties specifically agree that any performance by Contractor hereunder shall not subject the City to any cost, charge, or fee not specified above.

5. VERIFIED STATEMENT OF CLAIMS:

Colorado Revised Statutes § 38-26-107 (“**C.R.S.**”) requires that, in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to Contractor sufficient funds to insure the payment of any such claims. Should the City be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, Contractor agrees to pay to the City its costs and a reasonable attorney’s fee incurred in any such lawsuit. Because the City Attorney Staff does not bill the City for legal services on an hourly basis, Contractor agrees a reasonable fee shall be computed at the rate of two hundred dollars and no cents (\$200.00) per hour of City Attorney time.

6. DISPUTES:

All disputes arising under or related to this Contract shall be resolved by administrative hearing under the procedures described in **Exhibit F**, as modified by **Exhibit E**, if any, and the Denver Revised Municipal Code § 5-17 (“**D.R.M.C.**”) and all related rules and procedures, including but not limited to DEN Rule 250. The determination resulting from said administrative hearing shall be final, subject only to Contractor's right to appeal the determination under Colorado Rule of Civil Procedure, Rule 106.

7. DEFENSE AND INDEMNIFICATION:

A. To the fullest extent permitted by law, Contractor hereby agrees to defend, indemnify, reimburse and hold harmless City, its appointed and elected officials, agents and employees for, from and against all liabilities, claims, judgments, suits or demands for damages to

persons or property arising out of, resulting from, or related to the work performed under this Contract that are due to the negligence or fault of the Contractor or the Contractor's agents, representatives, subcontractors, or suppliers ("**Claims**"). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.

B. Contractor's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Contractor is not named as a Defendant.

C. Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation, including but not limited to time expended by the City Attorney Staff, whose costs shall be computed at the rate specified in Section 5. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.

D. Insurance coverage requirements specified in this Contract shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.

E. This defense and indemnification obligation shall survive the expiration or termination of this Contract.

8. WAIVER OF C.R.S. § 13-20-801, *ET SEQ.*:

Notwithstanding any other provision of this Contract, Contractor specifically waives all of the provisions of C.R.S. §§ 13-20-801 *et seq.* as they may relate to Contractor's performance under this Contract.

9. LIQUIDATED DAMAGES:

If Contractor fails to achieve Substantial Completion of the Work within the Contract Time or fails to substantially complete the Work described in the Scope of Work within the time set forth in the Special Conditions, the City will suffer substantial damages, which damages would be difficult to accurately determine. The Parties hereto have considered the possible elements of damages and have agreed that the amount of liquidated damages for Contractor's failure to substantially complete the work within the Contract Time or to substantially complete the work described in Milestone Areas within the time set forth in the Special Conditions shall be as provided in the Special Conditions. If Contractor shall fail to pay such liquidated damages promptly upon demand therefor, the Surety on its Performance Bond and Payment Bond shall pay such damages. Also, the City may withhold all, or any part of, such liquidated damages from any payment due to Contractor. Additional provisions relating to liquidated damages are set forth in the Construction Contract General Conditions and Special Conditions.

10. INSURANCE REQUIREMENTS:

A. Contractor shall obtain and keep in force all of the minimum insurance coverage forms and amounts set forth in *Exhibit C* (“**Insurance Requirements**”) during the entire Term of this Agreement, including any extensions of the Agreement or other extended period stipulations stated in *Exhibit C*. All certificates of insurance must be received and accepted by the City before any airport access or work commences.

B. Contractor shall ensure and document that all subcontractors performing services or providing goods hereunder procure and maintain insurance coverage that is appropriate to the primary business risks for their respective scopes of performance. At minimum, such insurance must conform to all applicable requirements of DEN Rules and Regulations Part 230 and all other applicable laws and regulations.

C. The City in no way warrants or represents the minimum limits contained herein are sufficient to protect Contractor from liabilities arising out of the performance of the terms and conditions of this Contract by Contractor, its agents, representatives, employees, or subcontractors. Contractor shall assess its own risks and maintain higher limits and/or broader coverage as it deems appropriate and/or prudent. Contractor is not relieved of any liability or other obligations assumed or undertaken pursuant to this Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types.

D. In no event shall the City be liable for any of the following: (i) business interruption or other consequential damages sustained by Contractor; (ii) damage, theft, or destruction of Contractor's inventory, or property of any kind; or (iii) damage, theft, or destruction of an automobile, whether or not insured.

E. The Parties understand and agree that the City, its elected and appointed officials, employees, agents and volunteers are relying on, and do not waive or intend to waive by any provisions of this Contract, the monetary limitations and any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, C.R.S. §§ 24-10-101, *et seq.*, or otherwise available to the City, its elected and appointed officials, employees, agents and volunteers.

11. CONTRACT BINDING:

It is agreed that this Contract shall be binding on and inure to the benefit of the Parties hereto, their heirs, executors, administrators, assigns, and successors.

12. SEVERABILITY:

If any part, portion, or provision of this Contract shall be found or declared null, void, or unenforceable for any reason whatsoever by any court of competent jurisdiction or any governmental agency having authority thereover, only such part, portion, or provision shall be affected thereby and all other parts, portions, and provisions of this Contract shall remain in full force and effect.

13. ASSIGNMENT:

Contractor shall not assign, pledge or transfer its duties, obligations, and rights under this Contract, in whole or in part, without first obtaining the written consent of the CEO or their authorized representative. Any attempt by Contractor to assign or transfer its rights hereunder without such prior written consent shall, at the option of the CEO or their authorized representative, automatically terminate this Contract and all rights of Contractor hereunder.

14. APPROPRIATIONS:

Payment will be in accordance with the provisions of the Contract Documents, including Title 9 of the General Conditions, and will be made solely and exclusively from funds appropriated or otherwise lawfully made available for the purposes of this Contract from the Airport System Funds. The City has no obligation to make payments from any other fund or source or to make additional appropriations or allocations to such fund to satisfy such costs or other obligations.

15. APPROVALS:

In the event this Contract calls for the payment by the City of Five Million Dollars and no cents (\$5,000,000.00) or more, approval by the Denver City Council, acting by Resolution in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and performance of this Contract.

16. JOINT VENTURE:

If Contractor is a Joint Venture, the partners to the Joint Venture shall be jointly and severally liable to the City for the performance of all duties and obligations of Contractor which are set forth in the Contract.

17. NO DISCRIMINATION IN EMPLOYMENT:

In connection with the performance of work under the Agreement, the Contractor may not refuse to hire, discharge, promote, demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, ethnicity, citizenship, immigration status, gender, age, sexual orientation, gender identity, gender expression, marital status, source of income, military status, protective hairstyle, or disability. The Contractor shall insert the foregoing provision in all subcontracts.

18. COORDINATION OF SERVICES:

Contractor agrees to perform its work under this Contract in accordance with the operational requirements of DEN, and all work and movement of personnel or equipment on areas included within the DEN site shall be subject to the regulations and restrictions established by the City or its authorized agents.

19. COMPLIANCE WITH ALL LAWS AND REGULATIONS:

A. Contractor and its subcontractor(s) shall perform all work under this Contract in compliance with all existing and future applicable laws, rules, regulations, and codes of the United States and the State of Colorado and with the City Charter, ordinances, Executive Orders, and rules and regulations of the City.

B. Contractor shall perform all work in compliance with Executive Order 123 regarding Sustainability as may be directed by the City, including the requirement that all new City buildings and major renovations will be certified to the applicable LEED Gold Certification, with the goal of achieving LEED Platinum where economically feasible. Contractor also shall comply with all applicable DEN design and construction standards, including the DEN Design Standards Manuals, which are incorporated herein by reference. Current versions can be found at: <https://business.flydenver.com/bizops/bizRequirements.asp>.

20. PREVAILING WAGE REQUIREMENTS:

A. Contractor shall comply with, and agrees to be bound by, all requirements, conditions and determinations of the City regarding the Payment of Prevailing Wages Ordinance, D.R.M.C. §§20-76 through 20-79, including, but not limited to, the requirement that every covered worker working on a City-owned or leased building or on City-owned land shall be paid no less than the prevailing wages and fringe benefits in effect on the date the bid or request for proposal was advertised. In the event a request for bids, or a request for proposal, was not advertised, Contractor shall pay every covered worker no less than the prevailing wages and fringe benefits in effect on the date funds for the Contract were encumbered.

Date bid or proposal issuance was advertised November 6, 2024.

B. Prevailing wage and fringe rates will adjust on the yearly anniversary of the actual date of bid or proposal issuance, if applicable, or the date of the written encumbrance if no bid/proposal issuance date is applicable. Unless expressly provided for in this Contract, Contractor will receive no additional compensation for increases in prevailing wages or fringe rates.

C. Contractor shall provide the Auditor of the City and County of Denver with a list of all subcontractors providing any services under the Contract.

D. Contractor shall provide the Auditor with electronically-certified payroll records for all covered workers employed under the Contract in a manner specified by the Auditor.

E. Contractor shall prominently post at the work site the current prevailing wage and fringe rates. The posting must inform workers that any complaints regarding the payment of prevailing wages or fringe benefits may be submitted to the Denver Auditor by calling 720-913-5000 or emailing auditor@denvergov.org.

F. If Contractor fails to pay workers as required by the Prevailing Wage Ordinance, Contractor will not be paid until documentation of payment satisfactory to the Auditor has been

provided. The Auditor may enforce the Prevailing Wage Ordinance in a manner provided by law, including the Prevailing Wage Ordinance. The City also may, by written notice, suspend or terminate work if Contractor fails to pay required wages and fringe rates.

21. CITY PROMPT PAYMENT:

A. The City will make monthly progress payments to the Contractor for all services performed under this Contract based upon the Contractor's monthly invoices or shall make payments as otherwise provided in this Contract. The City's Prompt Payment Ordinance, D.R.M.C. §§ 20-107 to 20-118, applies to invoicing and payment under this Contract.

B. Final Payment to the Contractor shall not be made until after the Project is accepted, and all certificates of completion, record drawings and reproducible copies, and other deliverables are delivered to the City, and the Contract is otherwise fully performed by the Contractor. The City may, at the discretion of the SVP, withhold reasonable amounts from billing and the entirety of the final payment until all such requirements are performed to the satisfaction of the SVP.

C. Prompt Pay of MWBE Subcontractors. For contracts of one million dollars (\$1,000,000.00) and over to which D.R.M.C. § 28-72 applies, the Contractor is required to comply with the Prompt Payment provisions under D.R.M.C. § 28-72, with regard to payments by the Contractor to MWBE subcontractors. If D.R.M.C. § 28-72 applies, Contractor shall make payment by no later than thirty-five (35) days from receipt by the Contractor of the subcontractor's invoice.

22. OWNERSHIP AND DELIVERABLES:

Upon payment to Contractor, all records, data, deliverables, and any other work product prepared by Contractor or any custom development work performed by Contractor for the purpose of performing this Contract on or before the day of the payment, whether a periodic or final payment, shall become the sole property of the City. Upon request by the City, or based on any schedule agreed to by Contractor and the City, Contractor shall provide the City with copies of the data/files that have been uploaded to any database maintained by or on behalf of Contractor or otherwise saved or maintained by Contractor as part of the services provided to the City under this Contract. All such data/files shall be provided to the City electronically in a format agreed to by the Parties. Contractor also agrees to allow the City to review any of the procedures Contractor uses in performing any work or other obligations under this Contract, and to make available for inspection any and all notes, documents, materials, and devices used in the preparation for or performance of any of the scope of work, for up to six (6) years after termination of this Contract. Upon written request from the City, Contractor shall deliver any information requested pursuant to this Section within ten (10) business days in the event a schedule or otherwise agreed-upon timeframe does not exist.

23. COLORADO OPEN RECORDS ACT:

A. Contractor acknowledges that the City is subject to the provisions of the Colorado Open Records Act ("CORA"), C.R.S. §§ 24-72-201 *et seq.*, and Contractor agrees that it will fully cooperate with the City in the event of a request or lawsuit arising under such act for the disclosure

of any materials or information which Contractor asserts is confidential or otherwise exempt from disclosure. Any other provision of this Contract notwithstanding, all materials, records, and information provided by Contractor to the City shall be considered confidential by the City only to the extent provided in CORA, and Contractor agrees that any disclosure of information by the City consistent with the provisions of CORA shall result in no liability of the City.

B. In the event of a request to the City for disclosure of such information, time and circumstances permitting, the City will make a good faith effort to advise Contractor of such request in order to give Contractor the opportunity to object to the disclosure of any material Contractor may consider confidential, proprietary, or otherwise exempt from disclosure. In the event Contractor objects to disclosure, the City, in its sole and absolute discretion, may file an application to the Denver District Court for a determination of whether disclosure is required or exempted. In the event a lawsuit to compel disclosure is filed, the City may tender all such material to the court for judicial determination of the issue of disclosure. In both situations, Contractor agrees it will either waive any claim of privilege or confidentiality or intervene in such legal process to protect materials Contractor does not wish disclosed. Contractor agrees to defend, indemnify, and hold harmless the City, its officers, agents, and employees from any claim, damages, expense, loss, or costs arising out of Contractor's objection to disclosure, including prompt reimbursement to the City of all reasonable attorney's fees, costs, and damages the City may incur directly or may be ordered to pay by such court, including but not limited to time expended by the City Attorney Staff, whose costs shall be computed at the rate specified in Section 5.

24. EXAMINATION OF RECORDS AND AUDITS:

A. Any authorized agent of the City, including the City Auditor or his or her representative, has the right to access and the right to examine, copy and retain copies, at City's election in paper or electronic form, any pertinent books, documents, papers and records related to Consultant's performance pursuant to this Agreement, provision of any goods or services to the City, and any other transactions related to this Agreement. Consultant shall cooperate with City representatives and City representatives shall be granted access to the foregoing documents and information during reasonable business hours and until the latter of three (3) years after the final payment under the Agreement or expiration of the applicable statute of limitations. When conducting an audit of this Agreement, the City Auditor shall be subject to government auditing standards issued by the United States Government Accountability Office by the Comptroller General of the United States, including with respect to disclosure of information acquired during the course of an audit. No examination of records and audit pursuant to this paragraph shall require Parties to make disclosures in violation of state or federal privacy laws. Parties shall at all times comply with D.R.M.C. 20-276.

B. Additionally, Contractor agrees until the expiration of six (6) years after the final payment under this Contract, any duly authorized representative of the City, including the CEO or their representative, shall have the right to examine any pertinent books, documents, papers and records of Contractor related to Contractor's performance of this Contract, including communications or correspondence related to Contractor's performance, without regard to whether

the work was paid for in whole or in part with federal funds or was otherwise related to a federal grant program.

C. In the event the City receives federal funds to be used toward the services performed under this Contract, the Federal Aviation Administration (“**FAA**”), the Comptroller General of the United States and any other duly authorized representatives shall have access to any books, documents, papers and records of Contractor which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts and transcriptions. Contractor further agrees that such records will contain information concerning the hours and specific services performed along with the applicable federal project number.

25. COMPLIANCE WITH DENVER WAGE LAWS:

To the extent applicable to the Contractor’s work hereunder, the Contractor shall comply with, and agrees to be bound by, all rules, regulations, requirements, conditions, and City determinations regarding the City’s Minimum Wage and Civil Wage Theft Ordinances, Sections 58-1 through 58-26 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid all earned wages under applicable state, federal, and city law in accordance with the foregoing D.R.M.C. Sections. By executing this Agreement, the Contractor expressly acknowledges that the Contractor is aware of the requirements of the City’s Minimum Wage and Civil Wage Theft Ordinances and that any failure by the Contractor, or any other individual or entity acting subject to this Agreement, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

26. COMPLIANCE WITH MINORITY/WOMEN BUSINESS ENTERPRISE REQUIREMENTS:

A. This Contract is subject to D.R.M.C. Article III, Divisions 1 and 3 of Chapter 28, designated as §§ 28-31 to 28-40 and 28-51 to 28-90 (the “**MWBE Ordinance**”) and any Rules or Regulations promulgated pursuant thereto. The Contractor’s Goal Commitment to MWBE participation for this Agreement is 20% as stipulated in the Division of Small Business Opportunity’s (“**DSBO**”) Commitment to MWBE Participation Form submitted by the Contractor.

B. Under D.R.M.C. § 28-68, Contractor has an ongoing, affirmative obligation to maintain for the duration of this Contract, at a minimum, compliance with the MWBE participation upon which this Contract was awarded, unless the City initiates a material modification to the scope of work affecting MWBEs performing on this Contract through change order, contract amendment, force account, or as otherwise described in D.R.M.C. § 28-70. The Contractor acknowledges that:

(i) If directed by DSBO, Contractor is required to develop and comply with a Utilization Plan in accordance with D.R.M.C. § 28-62(b). Along with the Utilization Plan requirements, Contractor must establish and maintain records and submit regular reports, as directed by DSBO, which will allow the City to assess progress in complying with the Utilization Plan and achieving the MWBE requirement. The Utilization Plan is subject to

modification by DSBO.

(ii) If change orders or any other contract modifications are issued under the Contract, Contractor shall have a continuing obligation to immediately inform DSBO in writing of any agreed upon increase or decrease in the scope of work of such contract, upon any of the bases discussed in D.R.M.C. § 28-70, regardless of whether such increase or decrease in scope of work has been reduced to writing at the time of notification.

(iii) If change orders or other amendments or modifications are issued under the Contract that include an increase in the scope of work of this Contract, whether by amendment, change order, force account or otherwise, which increases the dollar value of the Contract, whether or not such change is within the scope of work designated for performance by an MWBE at the time of contract award, such change orders or contract modification shall be immediately submitted to DSBO for notification purposes.

(iv) Those amendments, change orders, force accounts or other contract modifications that involve a changed scope of work that cannot be performed by existing project subcontractors are subject to the original contract goal. Contractor shall satisfy the goal with respect to such changed scope of work by soliciting new MWBEs in accordance with D.R.M.C. § 28-70. The Contractor must also satisfy the requirements under D.R.M.C. §§ 28-60 and 28-73 with regard to changes in scope or participation, including termination or substitution of an MWBE subcontractor. Contractor shall supply to the DSBO Director all required documentation described in D.R.M.C. §§ 28-60, 28-70, and 28-73 with respect to the modified dollar value or work under the Contract.

(v) Failure to comply with these provisions may subject Contractor to sanctions set forth in D.R.M.C. § 28-76 of the MWBE Ordinance.

(vi) Should any questions arise regarding specific circumstances, the Contractor should consult the MWBE Ordinance or may contact the Project's designated DSBO representative at (720) 913-1999.

27. SENSITIVE SECURITY INFORMATION:

Contractor acknowledges that, in the course of performing its work under this Contract, Contractor may be given access to Sensitive Security Information (“SSI”), as material is described in the Code of Federal Regulations, 49 C.F.R. Part 1520. Contractor specifically agrees to comply with all requirements of the applicable federal regulations, including but not limited to, 49 C.F.R. Parts 15 and 1520. Contractor understands any questions it may have regarding its obligations with respect to SSI must be referred to DEN’s Security Office.

28. DEN SECURITY:

A. Contractor, its officers, authorized officials, employees, agents, subcontractors, and those under its control, shall comply with safety, operational, or security measures required of Contractor or the City by the FAA or TSA. If Contractor, its officers, authorized officials, employees, agents, subcontractors or those under its control, fail or refuse to comply with said

measures and such non-compliance results in a monetary penalty being assessed against the City, then, in addition to any other remedies available to the City, Contractor shall fully reimburse the City any fines or penalties levied against the City, and any attorney fees or related costs paid by the City as a result of any such violation. Contractor must pay this amount within fifteen (15) days from the date of the invoice or written notice. Any fines and fees assessed by the FAA or TSA against the City due to the actions of Contractor and/or its agents will be deducted directly from the invoice for that billing period.

B. Contractor is responsible for compliance with Airport Security regulations and 49 C.F.R. Parts 1542 (Airport Security) and 14 C.R.F. Parts 139 (Airport Certification and Operations). Any and all violations pertaining to Parts 1542 and 139 resulting in a fine will be passed on to and borne by Contractor. The fee/fine will be deducted from the invoice at time of billing.

29. FEDERAL RIGHTS:

A. This Contract is subject and subordinate to the terms, reservations, restrictions and conditions of any existing or future contracts between the City and the United States, the execution of which has been or may be required as a condition precedent to the transfer of federal rights or property to the City for airport purposes, and the expenditure of federal funds for the extension, expansion or development of the Airport System.

(i) General Civil Rights: Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal Assistance. This provision binds Contractor and subcontractors from the bid solicitation period through the completion of the Contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

(ii) Federal Fair Labor Standards Act: This Contract incorporates by reference the provisions of 29 C.F.R. Part 201, the Federal Fair Labor Standards Act (“**FLSA**”), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers. Contractor agrees to incorporate by reference the provisions of FLSA in all contracts and subcontracts resulting from this Contract. Contractor has full responsibility to monitor compliance to the referenced regulation. Contractor must address any claims or disputes arising from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

(iii) Occupational Safety and Health Act: This Contract incorporates by reference the requirements of 29 C.F.R. Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. Contractor retains full responsibility to monitor its compliance and any subcontractor’s compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 C.F.R. Part 1910). Contractor must address any claims or disputes that pertain to a referenced

requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

(iv) Contractor covenants it will include the provisions of this section in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Federal Acts, Regulations and directives issued pursuant thereto. Contractor covenants it will take action with respect to any subcontract or procurement as the City or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, Contractor may request the City to enter into any litigation to protect the interests of the City. In addition, Contractor may request the United States to enter into the litigation to protect the interests of the United States.

30. CITY EXECUTION OF CONTRACT:

This Contract is expressly subject to, and shall become effective upon, the execution of all signatories of the City and, if required, the approval of Denver City Council. This Contract may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same.

31. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS:

The Contract, and any other documents requiring a signature hereunder, may be signed electronically by the City and/or Contractor in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Contract 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 Contract 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.

[SIGNATURE PAGES FOLLOW]

Contract Control Number:
Contractor Name:

PLANE-202475736-00
SKY BLUE BUILDERS LLC

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at
Denver, Colorado as of:

SEAL

CITY AND COUNTY OF DENVER:

ATTEST:

By:

APPROVED AS TO FORM:

Attorney for the City and County of Denver

By:

REGISTERED AND COUNTERSIGNED:

By:

By:

Contract Control Number:
Contractor Name:

PLANE-202475736-00
SKY BLUE BUILDERS LLC

By:

DocuSigned by:

Mowa Haile

E63F6829050C48F...

Name:

Mowa Haile

(please print)

Title:

CEO

(please print)

ATTEST: [if required]

By:

Name:

(please print)

Title:

(please print)

Appendix No. 1

Standard Federal Provisions – (Non-AIP Funded)

GENERAL CIVIL RIGHTS PROVISIONS

The Contractor or Consultant agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the Contractor and subcontractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required by Title VI of the Civil Rights Act of 1964.

COMPLIANCE WITH NONDISCRIMINATION REQUIREMENTS:

During the performance of this contract, the Contractor or Consultant, for itself, its assignees, and successors in interest (hereinafter collectively referred to as the "Contractor"), agrees as follows:

1. **Compliance with Regulations:** The Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts and Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
2. **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR part 21.
3. **Solicitations for Subcontracts, including Procurements of Materials and Equipment:** In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the Contractor of the contractor's obligations under this contract and the Nondiscrimination Acts and Authorities on the grounds of race, color, or national origin.
4. **Information and Reports:** The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the sponsor or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance:** In the event of a Contractor's noncompliance with the non-discrimination provisions of this contract, the sponsor will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:
 - a. Withholding payments to the Contractor under the contract until the Contractor complies; and/or
 - b. Cancelling, terminating, or suspending a contract, in whole or in part.
6. **Incorporation of Provisions:** The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations, and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the sponsor or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the sponsor to enter into any litigation to protect the interests of the sponsor. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

TITLE VI LIST OF PERTINENT NONDISCRIMINATION ACTS AND AUTHORITIES

During the performance of this contract, the Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination in Federally-assisted programs of the Department of Transportation—Effectuation of Title VI of the Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC § 4601) (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973 (29 USC § 794 et seq.), as amended (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended (42 USC § 6101 et seq.) (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982 (49 USC § 471, Section 47123), as amended (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987 (PL 100-209) (broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, the Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 USC §§ 12131 – 12189) as implemented by U.S. Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration’s Nondiscrimination statute (49 USC § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC 1681 et seq).

FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

Contractor is responsible for complying with the Federal Fair Labor Standards Act and for monitoring compliance by its subcontractors. Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. Contractor retains full responsibility to monitor its compliance and their subcontractor’s compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any

claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.



Exhibit A

SCOPE OF WORK

DESCRIPTION OF TASK:

Denver International Airport (DEN) requests the Contractor to provide a proposal for the Level 5 Dome and Ramps Enhancements. The work is located at Denver International Airport (DEN), terminal level 5 roadways east and west, 8400 Pena Blvd. Denver, CO 80249. The work will include all management, labor, supervision, coordination, materials, equipment, tools, testing, commissioning, incidentals, permits, and inspections as required for the completion of the reconfiguration to complete this scope of work and Division 1 specifications. Scope of work includes, but is not limited to, the following:

1. General Requirements
2. Demolition includes existing crosswalks curb ramps, etc. as noted and needed to accommodate the new layout.
3. Installation includes raised crosswalks and vehicular ramps, passenger loading zones along curbside sidewalks, cane detection devices for existing encroachments, new traffic and accessible wayfinding signage.
4. Modification of existing plumbing, electrical, systems as noted and to accommodate the new layout.
5. The Contractor is required to pay and obtain all trade permits and comply with all inspection requirements.
6. Plan review fees and the COMMCON permit will be paid by DEN.
7. The work will include all temporary construction to facilitate this work and ensure operational continuity.
8. The Contractor shall review all existing conditions to determine any electrical, plumbing, life safety, or utilities affected by the Work. Make necessary temporary connections to maintain existing services to all occupied and operations spaces.
 - o Contractor to submit a pedestrian pathway and detour plan for each sequence of work. In conjunction provide all adequate signage for each sequence.
9. Parking for Contractor employees and trades will not be provided and shall be covered under your General Conditions within approved areas or shall be contained within your DEN approved work area. Any deposits required by DEN Parking shall be at the Contractor's expense.
10. Contractors shall provide temporary lighting (if required) to perform their work.
11. BIM (Building Information Model) Requirements: The contractor team will utilize and adhere to all BIM and Asset Management requirements and software platforms as outlined in the current Design Standards Manual – Digital Facilities & Infrastructure/BIM, project specifications, and BIM Project Execution Plan.
12. Unifier: DEN has implemented Oracle's Primavera Unifier, a project life cycle management application that will be used as a collaboration tool for the project. The consultant team, working with the DEN Project Manager, shall use the process as defined by DEN, for activities including reviewing RFIs, submittals, pay applications and change documentation.
13. Base bid and alternate bids to assume nighttime work

Coordination Efforts:

The contractor is expected to coordinate with DEN stakeholders alongside the DEN PM. This will be a necessary and joint effort. The contractor will provide the necessary staffing and resources to

accommodate stakeholder approved requests and have flexibility within their schedule to accommodate.

Schedule:

The contractor will provide a schedule showing a Notice to Proceed date of March 03, 2025.

1. As part of this proposal the Contractor shall include a baseline schedule.
2. The Contractors work week will be dictated by the duration of the stipulated 186 calendar days.
3. The project schedule shall be inclusive of all administrative and construction activities.

Miscellaneous:

1. All work related to this scope must be completed in accordance with Contract Documents.
2. This will be a ROCIP project.
3. All Textura costs shall be included in the proposal.
4. Dumpster (disposal and transportation) to be provided by contractor. The contractor shall coordinate all dumpster drop offs, pickups, and swaps.
5. Material delivery & storage:
 - a. Coordinate with DEN PM (Project Manager) with regards to material staging and laydown area. Routing and staging are the responsibility of the contractor.

Additional Bid Packages (use fee form for each request below)

1. Bid 2 – West
 - a. Provide pricing for West Parking Level 05 Domes and Ramps portion of the project
 - b. Schedule
 - i. Add Alternate 1 would start March 1, on with a duration no longer than 120 days
2. Bid 3 - East
 - a. Provide pricing for East Parking Level 05 Domes and Ramps portion of the project
 - b. Schedule
 - i. Add Alternate 2 start date would be to be determined following completion of add alternate 1 with a duration no longer than 90 days.

RULES AND REGULATIONS

REGARDING

EQUAL EMPLOYMENT OPPORTUNITY

Promulgated and adopted by the Executive Director of the Department of Transportation and Infrastructure pursuant to and by authority of Article III, Division 2, Chapter 28 of the Revised Municipal Code of the City and County of Denver, and for the purpose of insuring that contractors, subcontractors and suppliers soliciting and receiving compensation for contract work from or through the City and County of Denver provide equal opportunity in employment without regard to race, color, creed, sex, national origin, age, religion, marital status, political opinion or affiliation or mental or physical handicap and meet certain requirements for the hiring, training, promotion, and treatment during employment of members of ethnic groups subject to differential treatment, including persons of African descent (Black), Spanish-surnamed (Hispanic), Asian-American and American Indian Groups.

RULE I - DEFINITIONS

- A. "City" means the City and County of Denver.
- B. "Manager" shall mean the Executive Director of the Department of Transportation and Infrastructure for the City and County of Denver.
- C. "Contract" means a contract entered into with the City and County of Denver, financed in whole or in part by local resources or funds of the City and County of Denver, for the construction of any public building or prosecution or completion of any public work.
- D. "Contractor" means the original party to a contract with the City and County of Denver, also referred to as the "general" or "prime" contractor.
- E. "Director" means the Director of the Division of Small Business Opportunity.
- F. "Subcontractor" means any person, company, association, partnership, corporation, or other entity, which assumes by subordinate agreement some or all of the obligations of the general or prime contractor.
- G. The phrase "Bidding Specifications" as used in Article III, Division 2 of Chapter 28 of the Revised Municipal Code shall include BID CONDITION, INVITATION TO BID, and NOTICE OF PROPOSAL.
- H. "Affirmative Action Program" means a set of specific and result-oriented procedures or steps to which a contractor commits himself to apply every good faith effort to employ members of ethnic minority groups, to include persons of African descent (Black), Spanish surnamed (Hispanic), Asian-American, American Indians, and persons with mental or physical handicap.
- I. "Division of Small Business Opportunity" means the City agency established pursuant to Article III, Division 1 of Chapter 28 of the Denver Revised Municipal Code.

RULE II - NOTICE OF HEARING

When results of conciliation efforts are unsatisfactory to the Manager and he is informed in accordance with Article III, Division 2 of Chapter 28 of the Revised Municipal code that a contractor or subcontractor has apparently failed to meet affirmative action and equal employment opportunity requirements after a reasonable period of notice to correct deficiencies, the Manager will, prior to imposition of any sanctions, afford the general contractor a hearing in order to determine whether the contractor or his subcontractors have failed to comply with the affirmative action and equal employment opportunity requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code

or of the contract. Written notice of such hearing shall be delivered personally or sent by certified mail, return receipt requested, to the contractor and to any subcontractor involved, at least ten (10) days prior to the date scheduled for the hearing.

RULE III - HEARING

- A. Contractors will appear at hearings and may be represented by counsel, and may present testimony orally and other evidence.
- B. Hearings shall be conducted by one or more hearing examiners designated as such by the Manager.
- C. The Director of the Division of Small Business Opportunity may participate in hearings as a witness.
- D. Hearings shall be held at the place specified in the notice of hearing.
- E. All oral testimony shall be given under oath or affirmation and a record of such proceedings shall be made.
- F. All hearings shall be open to the public.
- G. The hearing officer shall make recommendations to the Manager who shall make a final decision.

REGULATIONS

REGULATION NO. 1 - ORDINANCE:

The Rules and Regulations of the Manager shall be inserted in the bidding specifications for every contract for which bidding is required.

REGULATION NO. 2 - EXEMPTIONS:

Each contract and subcontract, regardless of the dollar amount, shall be subject to affirmative action requirements unless specifically exempted in writing individually by the Manager. Exemptions apply only to "affirmative action" in equal employment opportunity, and are not to be construed as condonation in any manner of "discrimination" or "discriminatory practices" in employment because of race, color, creed, sex, age, national origin, religion, marital status, political opinion or mental or physical handicap.

REGULATION NO. 3 - DIRECTOR OF CONTRACT COMPLIANCE:

The Director of the Division of Small Business Opportunity shall perform the duties assigned to such official by Article III, Division 2 Chapter 28 of the Revised Municipal Code and by the Manager. (1) The Director of the Division of Small Business Opportunity or designated representatives shall inform bidders and contractors of affirmative action procedures, programs, and goals in accordance with the Ordinance at pre-bid and pre-construction conference; (2) make regular on-site inspections; (3) supply contractors and subcontractors with report forms to be completed by them when requested, and furnished to the Director of the Division of Small Business Opportunity; and (4) review payroll records, employment records and practices of general contractors and their subcontractors and suppliers during the performance of any contract. The Director of the Division of Small Business Opportunity shall promptly report apparent affirmative action deficiencies to the Manager.

REGULATION NO. 4 - GOALS AND TIMETABLES:

In general, goals and timetables should take into account anticipated vacancies and the availability of skills in the market place from which employees should be drawn. In addition, where discrimination in employment by a general contractor or any of his subcontractors is indicated, a corrective action program will take into account the need by the general contractor and his subcontractors to correct past discriminatory practices and reach goals of minority manpower utilization on a timely basis through such recruiting and advertising efforts as are necessary and appropriate.

REGULATION NO. 5 - AWARD OF CONTRACTS:

It shall be the responsibility of the Director of the Division of Small Business Opportunity to determine the affirmative action capability of bidders, contractors and subcontractors and to recommend to the Manager the award of contracts to those bidders, contractors and subcontractors and suppliers who demonstrate the ability and willingness to comply with the terms of their contract.

REGULATION NO. 6 - PUBLICATION AND DUPLICATION:

Copies of these Rules and Regulations as amended by the Manager from time to time, shall as soon as practicable and after Notice being published will be made a part of all City Contracts.

REGULATION NO. 7 - NOTICE TO PROCEED:

Prior to issuance of the Notice to Proceed a sign-off will be required of the Director of the Division of Small Business Opportunity or his designee.

REGULATION NO. 8 - CONTRACTS WITH SUBCONTRACTORS:

To the greatest extent possible, the contractor shall make a good faith effort to contract with minority contractors, subcontractors and suppliers for services and supplies by taking affirmative actions, which include but are not limited to the following:

1. Advertise invitations for subcontractor bids in minority community news media.
2. Contact minority contractor organizations for referral of prospective subcontractors.
3. Purchase materials and supplies from minority material suppliers.

REGULATION NO. 9 - AGENCY REFERRALS:

It shall be no excuse that the union with which the contractor or subcontractor has an agreement providing for referral, exclusive or otherwise, failed to refer minority employees.

REGULATION NO. 10 - CLAUSES:

The Manager shall include the appropriate clauses in every contract and the contractor shall cause to be inserted in every subcontract the appropriate clauses:

1. APPENDIX A: City and County of Denver Equal Opportunity Clause - ALL CONTRACTS funded only with City and County of Denver monies.
2. APPENDIX B: Equal Opportunity Clause (11246) - ALL FEDERAL ASSISTED.
3. APPENDIX C: Section 3 - Assurance of Compliance - HUD ASSISTED PROJECTS.
4. APPENDIX D: Section 3 - Clause - HUD ASSISTED PROJECTS.

All amendments to the appendices shall be included by reference.

REGULATION NO. 11 - SHOW CAUSE NOTICES:

When the Manager has reasonable cause to believe that a contractor has violated Article III, Division 2 of Chapter 28 of the Denver Revised Municipal Code, he may issue a notice requiring the contractor to show cause, within fifteen (15) days why enforcement procedures, or other appropriate action to insure compliance, should not be instituted.

REGULATION NO. 12 - BID CONDITIONS - AFFIRMATIVE ACTION REQUIREMENTS - EQUAL EMPLOYMENT OPPORTUNITY:

1. APPENDIX E: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as amended and published by the U.S. Department of Labor Employment Standards Administration, Office of Federal Contract Compliance, shall be inserted verbatim for bidding specification for every non-exempt contract involving the use of Federal funds.
2. APPENDIX F: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as published by the Department of Transportation and Infrastructure, City and County

of Denver, shall be inserted verbatim as bidding specifications for every non-exempt contract using City funds.

APPENDIX A

CITY AND COUNTY OF DENVER EQUAL OPPORTUNITY CLAUSE - ALL CONTRACTS

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. Each Contractor will comply with all provisions of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and the rules, regulations, and relevant orders of the Manager and the Director.
5. The Contractor will furnish all information and reports required by Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and by rules, regulations and orders of the Manager and Director or pursuant thereto, and will permit access to his books, records, and accounts by the Manager, Director, or their designee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in Article III, Division 2, Chapter 28 of the Revised Municipal Code, or by rules, regulations, or order of the Manager.
7. The Contractor will include Regulation 12, Paragraph 2 and the provisions of paragraphs (1) through (6) in every subcontract of purchase order unless exempted by rules, regulations, or orders of the Manager issued pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, so that such provisions will be binding on each subcontractor or supplier. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The applicant further agrees to be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in City contracts. The Contractor agrees to assist and cooperate actively with the Manager and the Director in obtaining compliance of subcontractors and suppliers with the equal opportunity clause and the rules, regulations and relevant orders of the Manager, and will furnish the Manager and the Director such information as they may require for the supervision of compliance, and will otherwise assist the Manager and Director in the discharge of the City's primary responsibility for securing compliance. The Contractor further agrees to refrain from entering into any contract or contract modification subject to Article III, Division 2 of Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who has not demonstrated eligibility for, City contracts.

The Contractor will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the Manager and Director. In addition, the Contractor agrees that failure or refusal to comply with these undertakings the Manager may take any or all of the following actions:

- A. Cancellation, termination, or suspension in whole or in part of this contract.
- B. Refrain from extending any further assistance to the applicant under the program with respect to which the failure occurred until satisfactory assurance of future compliance has been received from such applicant.
- C. Refer the case to the City Attorney for appropriate legal proceedings.

SUBCONTRACTS: Each prime Contractor or Subcontractor shall include the equal opportunity clause in each of its subcontracts.

APPENDIX F

AFFIRMATIVE ACTION REQUIREMENTS

EQUAL EMPLOYMENT OPPORTUNITY

For All Non-Exempt Construction Contracts to Be Awarded by the
City and County of Denver, Department of Transportation and Infrastructure.

NOTICE

EACH BIDDER, CONTRACTOR OR SUBCONTRACTOR (HEREINAFTER THE CONTRACTOR) MUST FULLY COMPLY WITH THE REQUIREMENTS OF THESE BID CONDITIONS AS TO EACH CONSTRUCTION TRADE IT INTENDS TO USE ON THIS CONSTRUCTION CONTRACT, AND ALL OTHER CONSTRUCTION WORK (BOTH CITY AND NON-CITY) IN THE DENVER AREA DURING THE PERFORMANCE OF THIS CONTRACT OR SUBCONTRACT. THE CONTRACTOR COMMITS ITSELF TO THE GOALS FOR MINORITY MANPOWER UTILIZATION, AS APPLICABLE, AND ALL OTHER REQUIREMENTS, TERMS AND CONDITION OF THESE BID CONDITIONS BY SUBMITTING A PROPERLY SIGNED BID.

THE CONTRACTOR SHALL APPOINT A COMPANY EXECUTIVE TO ASSUME THE RESPONSIBILITY FOR THE IMPLEMENTATION OF THE REQUIREMENTS, TERMS AND CONDITIONS OF THESE BID CONDITIONS.

/s/ _____

Executive Director of Transportation and
Infrastructure
City and County of Denver

A. REQUIREMENTS - AN AFFIRMATIVE ACTION PLAN:

Contractors shall be subject to the provisions and requirements of these bid conditions including the goals and timetables for minority* and female utilization, and specific affirmative action steps set forth by the Office of Contract Compliance. The contractor's commitment to the goals for minority, and female utilization as required constitutes a commitment that it will make every good faith effort to meet such goals.

1. GOALS AND TIMETABLES:

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade are as follows:

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE	GOALS FOR FEMALE PARTICIPATION FOR EACH TRADE
From January 1, 1982 to Until Further Notice	From January 1, 1982 to Until Further Notice
21.7% - 23.5%	6.9%

The goals for minority and female utilization above are expressed in terms of hours of training and employment as a proportion of the total number of hours to be worked by the contractor's aggregate workforce, which includes all supervisory personnel, in each trade, on all projects for the City and County of Denver during the performance of its contract (i.e., The period beginning with the first day of work on the City and County of Denver funded construction contract and ending with the last day of work).

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract in each trade and minorities and females must be employed evenly on each of a contractor's projects. Therefore, the transfer of minority or female employees from contractor to contractor or from project to project for the purpose of meeting the contractor's goals shall be a violation of these Bid Conditions.

If the Contractor counts the nonworking hours of apprentices they must be employed by the Contractor during the training period; the Contractor must have made a commitment to employ apprentices at the completion of their training subject to the availability of employment opportunities; and the apprentices must be trained pursuant to training programs approved by the Bureau of Apprenticeship and Training.

* "Minority" is defined as including, Blacks, Spanish Surname Americans, Asian Americans, and American Indians, and includes both men and minority women.

2. SPECIFIC AFFIRMATIVE ACTION STEPS:

No contractor shall be found to be in noncompliance solely on account of its failure to meet its goals, but will be given an opportunity to demonstrate that the contractor has instituted all the specific affirmative action steps specified and has made every good faith effort to make these steps work toward the attainment of its goals within the timetables, all to the purpose of expanding minority and female utilization in its aggregate workforce. A contractor, who fails to comply with its obligation under the Equal Opportunity Clause of its contract and fails to achieve its commitments to the goals for minority and female utilization has the burden of proving that it has engaged in an Affirmative Action Program directed at increasing minority and female utilization and that such efforts were at least as extensive and as specific as the following:

- a. The Contractor should have notified minority and female organizations when employment opportunities were available and should have maintained records of the organization's response.

- b. The Contractor should have maintained a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the Contractor, the reasons. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred, not employed by the Contractor, the file should have documented this and their reasons.
- c. The Contractor should have promptly notified the Department of Transportation and Infrastructure, and the Division of Small Business Opportunity when the union or unions with which the Contractor has collective bargaining agreements did not refer to the contractor a minority or female sent by the contractor, or when the Contractor has other information that the union referral process has impeded efforts to meet its goals.
- d. The Contractor should have disseminated its EEO policy within its organization by including it in any employee handbook or policy manual; by publicizing it in company newspapers and annual reports and by advertising such policy at reasonable intervals in union publications. The EEO policy should be further disseminated by conducting staff meetings to explain and discuss the policy; by posting of the policy; and by review of the policy with minority and female employees.
- e. The Contractor should have disseminated its EEO policy externally by informing and discussing it with all recruitment sources; by advertising in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.
- f. The Contractor should have made both specific and reasonably recurrent written and oral recruitment efforts. Such efforts should have been directed at minority and female organizations, schools with substantial minority and female enrollment, and minority and female recruitment and training organizations within the Contractor's recruitment area.
- g. The Contractor should have evidence available for inspection that all tests and other selection techniques used to select from among candidates for hire, transfer, promotion, training, or retention are being used in a manner that does not violate the OFCCP Testing Guidelines in 41 CFR Part 60-3.
- h. The Contractor should have made sure that seniority practices and job classifications do not have a discriminatory effect.
- i. The Contractor should have made certain that all facilities are not segregated by race.
- j. The Contractor should have continually monitored all personnel activities to ensure that its EEO policy was being carried out including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.
- k. The Contractor should have solicited bids for subcontracts from available minority and female subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority and female contractor associations.

NOTE:

The Director and the Division of Small Business Opportunity will provide technical assistance on questions pertaining to minority and female recruitment sources, minority and female community organizations, and minority and female news media upon receipt of a request for assistance from a contractor.

3. NON - DISCRIMINATION:

In no event may a contractor utilize the goals and affirmative action steps required in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex, marital status, national origin, age, mental or physical handicap, political opinion or affiliation.

4. COMPLIANCE AND ENFORCEMENT:

In all cases, the compliance of a contractor will be determined in accordance with its obligations under the terms of these Bid Conditions. All contractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors in writing of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority and female employment and training.

B. CONTRACTORS SUBJECT TO THESE BID CONDITIONS:

In regard to these Bid Conditions, if the Contractor meets the goals set forth therein or can demonstrate that it has made every good faith effort to meet these goals, the Contractor shall be presumed to be in compliance with Article III, Division 2 of Chapter 28 of the Revised Municipal Code, the implementing regulations and its obligations under these Bid Conditions. In the event, no formal sanctions or proceedings leading toward sanctions shall be instituted unless the contracting or administering agency otherwise determines that the contractor is violating the Equal Opportunity Clause.

1. Where the Office of Contract Compliance finds that a contractor failed to comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or the implementing regulations and the obligations under these Bid Conditions, and so informs the Manager, the Manager shall take such action and impose such sanctions, which include suspension, termination, cancellation, and debarment, as may be appropriate under the Ordinance and its regulations. When the Manager proceeds with such formal action it has the burden of proving that the Contractor has not met the goals contained in these Bid Conditions. The Contractor's failure to meet its goals shall shift to it the requirement to come forward with evidence to show that it has met the good faith requirements of these Bid Conditions.
2. The pendency of such proceedings shall be taken into consideration by the Department of Transportation and Infrastructure in determining whether such contractor can comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and is therefore a "responsible prospective contractor".
3. The Division of Small Business Opportunity shall review the Contractor's employment practices during the performance of the contract. If the Division of Small Business Opportunity determines that the Contractor's Affirmative Action Plan is no longer an acceptable program, the Director shall notify the Manager.

C. OBLIGATIONS APPLICABLE TO CONTRACTORS:

It shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority or female employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act, as amended, Title VI of the Civil Rights Act of 1964, as amended, and Article III, Division 2 of Chapter 28 of the Revised Municipal Code. It is the policy of the Department of Transportation and Infrastructure that contractors have a responsibility to provide equal employment opportunity, if they wish to participate in City and County of Denver contracts. To the extent they have delegated the responsibility for some of their employment practices to a labor organization and, as a result, are prevented from meeting their obligations pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, such Contractors cannot be considered to be in compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, or its implementing rules and regulations.

D. GENERAL REQUIREMENTS:

Contractors are responsible for informing their subcontractors in writing regardless of tier, as to their respective obligations. Whenever a Contractor subcontracts a portion of work in any trade covered by these

Bid Conditions, it shall include these Bid Conditions in such subcontracts and each subcontractor shall be bound by these Bid Conditions to the full extent as if it were the prime contractor. The Contractor shall not, however, be held accountable for the failure of its subcontractors to fulfill their obligations under these Bid Conditions. However, the prime contractor shall give notice to the Director of any refusal or failure of any subcontractor to fulfill the obligations under these Bid Conditions. A subcontractor's failure to comply will be treated in the same manner as such failure by a prime contractor.

1. Contractors hereby agree to refrain from entering into any contract or contract modification subject to Article III, Division 2, Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who is determined not to be a "responsive" bidder for the City and County of Denver contracts pursuant to the Ordinance.
2. The Contractor shall carry out such sanctions and penalties for violation of these Bid Conditions and the Equal Opportunity Clause including suspension, termination and cancellation of existing subcontracts and debarment from future contracts as may be ordered by the Manager pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code and its implementing regulations.
3. Nothing herein is intended to relieve any contractor during the term of its contract from compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, and the Equal Opportunity Clause of its contract with respect to matters not covered in these Bid Conditions.
4. Contractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the Office of Contract Compliance.
5. Requests for exemptions from these Bid Conditions must be made in writing, with justification, to the Manager of the Department of Transportation and Infrastructure, 201 W. Colfax, Dept. 608, Denver, Colorado 80202, and shall be forwarded through and with the endorsement of the Director.

EXHIBIT C**CITY AND COUNTY OF DENVER
INSURANCE REQUIREMENTS FOR DEPARTMENT OF AVIATION
OWNER CONTROLLED INSURANCE PROGRAM (OCIP/ROCIP) PROJECT**

NOTICE OF CHANGE TO ROCIP: DEN reserves the right to terminate or modify the DEN ROCIP or any portion thereof. Further, dependent on factors including, but not limited to, the official timing and duration of the ROCIP project for which services are provided under this Agreement, DEN may need to transition from one ROCIP program to another and introduce corresponding requirements for contractors. DEN will provide Contractor notice in accordance with the terms and conditions of this Agreement.

1. General Information

City and County of Denver and Denver International Airport (hereinafter referred to collectively as “DEN”) has arranged for certain construction activities at DEN to be insured under an Owner Controlled Insurance Program (OCIP) or a Rolling Owner Controlled Insurance Program (ROCIP) (hereinafter collectively referred to as “ROCIP”). A ROCIP is a single insurance program that insures DEN, the Contractor and subcontractors of any tier, and other designated parties (Enrolled Parties), for work performed at the Project Site. Certain trade contractors and subcontractors are ineligible for this program; see ROCIP Insurance Manual Section 4. Insurance requirements are determined based on the scope of work.

1.2 ROCIP Manuals

Below are links to access the current reference manuals related to DEN ROCIP. These manuals are part of the Contract Documents.

[ROCIP Insurance Manual](#)

[ROCIP Safety Manual](#)

[ROCIP Claims Guide](#)

2. Insurance Requirements for Non-ROCIP Contractors and Subcontractors (Ineligible Parties)

Contractor and subcontractors of any tier shall require all Ineligible Parties, as defined in ROCIP Insurance Manual Section 4 or confirmed as excluded by DEN, to provide and maintain insurance of the type and in limits as set forth in the Contractor Subcontract Agreement and such insurance shall include the minimum defined coverages and be evidenced to DEN as required in this Section 2.

2.1 Certificate Holder

Certificate(s) shall be issued to:

CITY AND COUNTY OF DENVER
Denver International Airport
8500 Peña Boulevard, Suite 8810
Denver CO 80249
Attn: Risk Management

2.2 Acceptable Certificate of Insurance Form and Submission Instructions

Please read these requirements carefully to ensure proper documentation and receipt of your certificate(s) of insurance.

- ACORD FORM (or equivalent) certificate is required.
- SUBMIT via emailed in pdf format to: contractadmininvoices@flydenver.com
- ELECTRONIC CERTIFICATES are required, hard copy documents will not be accepted.

- THIRD PARTY SOFTWARE may be implemented during the term of this Agreement to manage insurance compliance and documents with required use by Vendor of such system.
- REFERENCE on the certificate must include the DEN assigned Contract Number.

2.3 Coverage and Limits

2.3.1 Commercial General Liability

Contractor shall maintain insurance coverage including bodily injury, property damage, personal injury, advertising injury, independent contractors, and products and completed operations in minimum limits of \$1,000,000 each occurrence, \$2,000,000 products and completed operations aggregate; if policy contains a general aggregate, a minimum limit of \$2,000,000 annual aggregate must be maintained.

- 2.3.1.1 Coverage shall include Contractual Liability covering liability assumed under this Agreement (including defense costs assumed under contract) within the scope of coverages provided.
- 2.3.1.2 Coverage shall include Mobile Equipment Liability, if used to perform services under this Agreement.

2.3.2 Business Automobile Liability

Contractor shall maintain a minimum limit of \$1,000,000 combined single limit each occurrence for bodily injury and property damage for all owned, leased, hired and/or non-owned vehicles used in performing services under this Agreement.

- 2.3.2.1 If operating vehicles unescorted airside at DEN, a \$10,000,000 combined single limit each occurrence for bodily injury and property damage is required.
- 2.3.2.2 If Contractor does not have blanket coverage on all owned and operated vehicles and will require unescorted airside driving privileges, then a schedule of insured vehicles (including year, make, model and VIN number) must be submitted with the Certificate of Insurance.
- 2.3.2.3 If transporting waste, hazardous material, or regulated substances, Contractor shall carry a Broadened Pollution Endorsement and an MCS 90 endorsement on its policy.
- 2.3.2.4 If Contractor does not own any fleet vehicles and Contractor's owners, officers, directors, and/or employees use their personal vehicles to perform services under this Agreement, Contractor shall ensure that one or both of the following coverages are maintained as appropriate: (i) Personal Automobile Liability including a Business Use Endorsement by the vehicle owner and (ii) Non-Owned Auto Liability by the Contractor.
- 2.3.2.5 If Contractor will be completing all services to DEN under this Agreement remotely and not be driving to locations under direction of the City to perform services, this requirement is waived.

2.3.3 Workers' Compensation and Employer's Liability Insurance

Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits no less than \$1,000,000 per occurrence for each bodily injury claim, \$1,000,000 per occurrence for each bodily injury caused by disease claim, and \$1,000,000 aggregate for all bodily injuries caused by disease claims.

2.3.3.1 Colorado Workers' Compensation Act allows for certain, limited exemptions from Worker's Compensation insurance coverage requirements. It is the sole responsibility of the Contractor to determine their eligibility for providing this coverage, executing all required documentation with the State of Colorado, and obtaining all necessary approvals. Verification document(s) evidencing exemption status must be submitted with the Certificate of Insurance.

2.3.4 Professional Liability (Errors and Omissions) Insurance

Contractor shall maintain a minimum limit of \$1,000,000 each claim and policy aggregate, providing coverage for applicable services outlined in this Agreement. If there are no applicable professional services, this coverage will not be required.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.5 Contractor's Pollution Legal Liability

If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain coverage for its work site operations that are conducted on DEN's premises including project management and site supervision duties with a limit no less than \$1,000,000 each occurrence and aggregate resulting from claims arising out of a pollution condition or site environmental condition resulting out of work site operations on DEN's premises.

2.3.5.1 Coverage shall include claims/losses for bodily injury, property damage including loss of use of damaged property, defense costs including costs and expenses incurred in the investigation, defense or settlement of claims, and cleanup cost for pollution conditions resulting from illicit abandonment, the discharge, dispersal, release, escape, migration or seepage of any solid, liquid, gaseous or thermal irritant, contaminant, or pollutant, including soil, silt, sedimentation, smoke, soot, vapors, fumes, acids, alkalis, chemicals, electromagnetic fields, hazardous substances, hazardous materials, waste materials, low level radioactive waste, mixed wastes, on, in, into, or upon land and structures thereupon, the atmosphere, surface water or groundwater on the DEN premises.

2.3.5.2 Work site means a location where covered operations are being performed, including real property rented or leased from DEN for the purpose of conducting Contractor's covered operations.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.6 Cyber Liability

If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain a minimum limit of \$1,000,000 per occurrence and \$1,000,000 annual policy aggregate covering claims involving privacy violations, information theft, damage to or destruction of electronic information, intentional and/or unintentional release of private information, alteration of electronic information, extortion, and network security.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.7 Technology Errors and Omissions, Network Security, and Privacy Liability (Cyber):
If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain a limit no less than \$1,000,000 each claim and aggregate; \$1,000,000 each claim and aggregate for cyber extortion; and no less than \$250,000 each claim for invoice manipulation and email spoofing.

2.3.7.1 Coverage shall include, but not be limited to, liability arising from theft, dissemination and/or use of personal, private, confidential, information subject to a non-disclosure agreement, including information stored or transmitted, privacy or cyber laws, damage to or destruction of information, intentional and/or unintentional release of private information, alteration of information, extortion and network security, introduction of a computer virus into, or otherwise causing damage to, a customer's or third person's computer, computer system, network or similar computer related property and the data, software, and programs thereon, advertising injury, personal injury (including invasion of privacy) and intellectual property offenses related to internet.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.8 Unmanned Aerial Vehicle (UAV) Liability

If Contractor desires to use drones in any aspect of its work on DEN premises, the following requirements must be met prior to commencing any drone operations:

- 2.3.8.1 Express written permission must be granted by DEN.
- 2.3.8.2 Express written permission must be granted by the Federal Aviation Administration (FAA).
- 2.3.8.3 Drone equipment must be properly registered with the FAA.
- 2.3.8.4 Drone operator(s) must be properly licensed by the FAA.
- 2.3.8.5 Contractor must maintain UAV Liability including flight coverage, personal and advertising injury liability, and hired/non-owned UAV liability for its commercial drone operations with a limit no less than \$1,000,000 combined single limit each occurrence for bodily injury and property damage.

2.3.9 Excess/Umbrella Liability

Combination of primary and excess coverage may be used to achieve minimum required coverage limits. Excess/Umbrella policy(ies) must follow form of the primary policies with which they are related to provide the minimum limits and be verified as such on any submitted Certificate of Insurance.

2.4 Reference to Project and/or Contract

The DEN Project and/or Contract Number and project description shall be noted on the Certificate of Insurance.

2.5 Additional Insured

For all coverages required under this Agreement (excluding Workers' Compensation and Professional Liability, if required), Contractor's insurer(s) shall include the City and County of Denver, its elected and appointed officials, successors, agents, employees and volunteers as Additional Insureds by policy endorsement.

2.6 Waiver of Subrogation

For all coverages required under this Agreement (excluding Professional Liability, if required), Contractor's insurer(s) shall waive subrogation rights against the City and County of Denver, its elected and appointed officials, successors, agents, employees and volunteers by policy endorsement.

If Contractor will be completing all services to the City under this Agreement remotely and not be traveling to locations under direction of the City to perform services, this requirement is waived specific to Workers' Compensation coverage.

2.7 Notice of Material Change, Cancellation or Nonrenewal

Each certificate and related policy shall contain a valid provision requiring notification to the Certificate Holder in the event any of the required policies be canceled or non-renewed or reduction in required coverage before the expiration date thereof.

- 2.7.1 Such notice shall reference the DEN assigned contract number related to this Agreement.
- 2.7.2 Said notice shall be sent thirty (30) days prior to such cancellation, non-renewal or reduction in coverage unless due to non-payment of premiums for which notice shall be sent ten (10) days prior.
- 2.7.3 If such written notice is unavailable from the insurer or afforded as outlined above, Contractor and/or its insurance broker/agent shall provide written notice of cancellation, non-renewal and any reduction in coverage to the Certificate Holder within seven (7) business days of receiving such notice by its insurer(s) and include documentation of the formal notice received from its insurer(s) as verification. Contractor shall replace cancelled or nonrenewed policies with no lapse in coverage and provide an updated Certificate of Insurance to DEN.
- 2.7.4 In the event any general aggregate or other aggregate limits are reduced below the required minimum per occurrence limits, Contractor will procure, at its own expense, coverage at the requirement minimum per occurrence limits. If Contractor cannot replenish coverage within ten (10) calendar days, it must notify the City immediately.

2.8 Cooperation

Contractor agrees to fully cooperate in connection with any investigation or inquiry and accept any formally tendered claim related to this Agreement, whether received from the City or its representative. Contractor's failure to fully cooperate may, as determined in the City's sole discretion, provide cause for default under the Agreement. The City understands acceptance of a tendered claim does not constitute acceptance of liability.

2.9 Additional Provisions

- 2.9.1 Deductibles or any type of retention are the sole responsibility of the Contractor.
- 2.9.2 Defense costs shall be in addition to the limits of liability. If this provision is unavailable that limitation must be evidenced on the Certificate of Insurance.
- 2.9.3 Coverage required may not contain an exclusion related to operations on airport premises.
- 2.9.4 A severability of interests or separation of insureds provision (no insured vs. insured exclusion) is included under any policy requiring Additional Insured status.
- 2.9.5 A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by DEN, excluding Professional Liability and Workers' Compensation policies, if required.

- 2.9.6 The insurance requirements under this Agreement shall be the greater of (i) the minimum limits and coverage specified hereunder or (ii) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the Contractor. It is agreed that the insurance requirements set forth herein shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums set forth in this Agreement.
- 2.9.7 All policies shall be written on an occurrence form when available and industry norm. If an occurrence form is unavailable and/or the industry norm, claims-made coverage may be accepted by DEN provided the retroactive date is on or before the Agreement Effective Date or the first date when any goods or services were provided to DEN, whichever is earlier, and continuous coverage will be maintained or an extended discovery period of three years beginning at the time work under this Agreement is completed or the Agreement is terminated, whichever is later.
- 2.9.8 Certificates of Insurance must specify the issuing companies, policy numbers and policy periods for each required form of coverage. The certificates for each insurance policy are to be signed by an authorized representative and must be submitted to the City at the time Contractor signed this Agreement.
- 2.9.9 The insurance shall be underwritten by an insurer licensed or authorized to do business in the State of Colorado and rated by A.M. Best Company as A- VIII or better.
- 2.9.10 Certificate of Insurance and Related Endorsements: The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. All coverage requirements shall be enforced unless waived or otherwise modified in writing by DEN Risk Management. Contractor is solely responsible for ensuring all formal policy endorsements are issued by their insurers to support the requirements.
- 2.9.11 The City shall have the right to verify, at any time, all coverage, information, or representations, and the insured and its insurance representatives shall promptly and fully cooperate in any such audit the City may elect to undertake including provision of copies of insurance policies upon request. In the case of such audit, the City may be subject to a non-disclosure agreement and/or redactions of policy information unrelated to the required coverage and premium amounts.
- 2.9.12 No material changes, modifications, or interlineations to required insurance coverage shall be allowed without the review and written approval of DEN Risk Management.
- 2.9.13 Contractor shall be responsible for ensuring the City is provided updated Certificate(s) of prior to each policy renewal.
- 2.9.14 Contractor's failure to maintain required insurance shall be the basis for immediate suspension and cause for termination of this Agreement, at the City's sole discretion and without penalty to the City.

2.10 Part 230 and the DEN Airport Rules and Regulations

If the minimum insurance requirements set forth herein differ from the equivalent types of insurance requirements in Part 230 of the DEN Airport Rules and Regulations, the greater and broader insurance requirements shall supersede those lesser requirements, unless expressly excepted in writing by DEN Risk Management.

3. Insurance Requirements for ROCIP Enrolled Contractors and Subcontractors

3.1 Insurance Provided by the DEN ROCIP

DEN retains the right to have this Project insured under a ROCIP. ROCIP coverage shall provide: (i) Commercial General Liability, (ii) Workers' Compensation & Employer's Liability, (iii) Excess Liability, (iv) Contractor's Pollution Liability, and (v) Builder's Risk as outlined herein and as defined by the respective policies for each coverage, for the period from the start of Work through completion and final acceptance by DEN except as otherwise provided herein.

3.2 Enrollment Required

Parties performing labor or services at the Project Site are eligible to enroll in the DEN ROCIP, unless they are Ineligible Parties (as defined in ROCIP Insurance Manual Section 4). Participation is mandatory but not automatic. Parties eligible for enrollment shall follow the procedures and follow the instructions as provided in the DEN ROCIP Insurance Manual to enroll in the program. When the Contractor and subcontractors of any tier are properly enrolled, the DEN ROCIP Administrator will issue a Certificate of Insurance evidencing the coverages afforded to each Enrolled Party under the DEN ROCIP, prior to their commencing Work on the Project Site.

3.3 Exclusion of Contractor/Subcontractor Insurance Costs from Proposal and Bid Prices

Contractor shall exclude from Contractor's cost of work and ensure that each subcontractor of any tier exclude from their cost of work, normal costs for insurance for those coverages provided under the DEN ROCIP. As part of the enrollment process, Contractor and subcontractors shall provide policy declaration rate pages and deductible endorsements on the General Liability, Workers' Compensation, and Excess Liability policies as required in the DEN ROCIP Insurance Manual. The calculation of these costs will be determined by the ROCIP Program Administrator. The costs of DEN ROCIP coverage includes reductions in insurance premiums, all relevant taxes and assessments, markup on insurance premiums, and losses retained through large deductibles, self-insured retentions, or self-funded programs. Change orders shall also exclude the cost of ROCIP coverage.

Pre-employment substance abuse testing costs will be covered by DEN and should be removed from bid prices. Drug testing will be more thoroughly discussed in the ROCIP Safety Manual.

3.4 Insurance Premiums

DEN will pay the insurance premiums for the DEN ROCIP insurance policies. DEN is responsible for all adjustments to the premiums and will be the sole beneficiary of all dividends, retroactive adjustments, return premiums, and any other monies due through audits or otherwise. The Contractor assigns to DEN the right to receive all such adjustments and will require that each subcontractor of any tier assign to DEN all such adjustments. The Contractor and the subcontractors who are Enrolled Parties shall execute such further documentation as may be required by DEN to accomplish this assignment.

3.5 Off Site Operations Coverage Under ROCIP

The DEN ROCIP will provide certain insurance coverage for DEN, Contractor and Enrolled Parties, along with their Eligible Employees performing Work at the Project Site. Off-site operations shall be covered only if designated in writing by DEN and when all operations at such site are identified and solely dedicated to the Project. Contractors and subcontractors are responsible to notify the DEN ROCIP Administrator in writing, to request coverage for specified off-site operations. Coverage is not provided at the off-site location unless confirmed in writing by the DEN ROCIP Administrator.

3.6 DEN ROCIP Insurance Manual

As soon as practicable, the DEN ROCIP Insurance Manual will be sent to each Enrolled Party and will become a part of the Contract and Contractor's Subcontract with its subcontractor and its subcontractors' agreements with any lower-tier subcontractor. The DEN ROCIP Insurance Manual will contain the administrative and claim reporting procedures. Contractor agrees to and will require that its subcontractors of any tier to cooperate with the DEN ROCIP Administrator in providing all required information.

3.7 Conflicts

Descriptions of the DEN ROCIP coverages set forth in ROCIP Insurance Manual Section 4.6 are not intended to be complete or meant to alter or amend any provision of the DEN ROCIP insurance policies. The DEN ROCIP coverages, terms, conditions, and exclusions are set forth in full in their respective policy forms. In the event of a conflict or omission between the coverages provided in the DEN ROCIP insurance policies and the coverages summarized or described in the DEN ROCIP Insurance Manual, this Exhibit or elsewhere in the Contract Documents, the DEN ROCIP insurance policies shall govern. In the event of a conflict between the provisions of this Exhibit and the DEN ROCIP Insurance Manual, that does not involve any conflict with the provisions of the DEN ROCIP insurance policies, the provisions of this Exhibit shall govern.

3.8 ROCIP Insurance Coverage Provided to Enrolled Parties

3.8.1 Insurance Provided by DEN

Unless otherwise provided herein, prior to commencement of the Work, DEN, at its sole option and expense, shall secure and maintain at all times during the performance of this Contract the insurance specified below, insuring DEN, Enrolled Parties and such other persons or interests as DEN may designate with limits not less than those specified below for each coverage.

3.8.1.1 Workers’ Compensation & Employer’s Liability – On Site Only

DEN shall maintain the coverage as required by statute for the Project Site and shall maintain Employer’s Liability insurance with limits no less than \$1,000,000 per occurrence for each bodily injury claim, \$1,000,000 per occurrence for each bodily injury caused by disease claim, and \$1,000,000 aggregate for all bodily injuries caused by disease claims.

3.8.1.2 Commercial General Liability – On Site Only

DEN shall maintain insurance coverage including bodily injury, property damage, personal injury, advertising injury, and products and completed operations in minimum limits as listed below:

Coverage	Limit
Annual General Aggregate (Per Project and Reinstates Annually)	\$4,000,000
Products/Completed Operations Aggregate (Per Project and Statute of Repose)	\$4,000,000
Total Products/Completed Operations Aggregate (Statute of Repose)	\$20,000,000
Personal / Advertising Injury Limit	\$2,000,000
Each Occurrence Limit	\$2,000,000
Fire Damage Legal Liability (any one fire)	\$ 300,000
Medical Payments (any one person)	\$ 10,000

3.8.1.3 Excess Liability Insurance

DEN shall maintain coverage following form with underlying policies of Commercial General Liability and Employer’s Liability in minimum limits as listed below:

Coverage	Limit
Annual General Aggregate (Per Project and Reinstates Annually)	\$200,000,000
Products/Completed Operations Aggregate (Per Project)	\$20,000,000
Total Products/Completed Operations Aggregate (Policy Cap)	\$400,000,000
Each Occurrence Limit	\$200,000,000

DEN, in its sole discretion, may elect to provide higher limits, based on Project size. Excess Liability limits are shared by all Insured parties.

3.8.1.4 Contractor's Pollution Liability

DEN shall maintain coverage for bodily injury, property damage, or environmental damage caused by a pollution event resulting from covered operations, including completed operations, at the Project Site with a limit no less than \$10,000,000 each occurrence and aggregate. Coverage includes microbial matter and legionella pneumophila in any structure on land and the atmosphere contained within the structure. Products/Completed Operations coverage may extend for the statute of limitations/repose after final completion of the Project.

3.8.1.5 Builder's Risk Insurance

DEN shall maintain, Builder's Risk (and/or Installation Floater) in the amount of \$200,000,000 per occurrence subject to various sublimits (as defined in the Builders' Risk Policy). Such insurance shall end when the first of the following occurs: 1) DEN's interest in the Work ceases; 2) the policy expires or is cancelled; or 3) the Work is accepted by DEN.

Builder's Risk Insurance limits are shared by all insured parties and shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss of damage including , theft, vandalism, malicious mischief, terrorism, rigging and hoisting for materials and equipment that are part of the Project, collapse, earthquake, flood, windstorm, falsework, testing and startup (as provided by the policy), temporary buildings and debris removal including demolition occasioned by enforcement of any applicable ordinance laws, and shall cover reasonable compensation for services and expenses required as a result of such insured loss.

This Builder's Risk Insurance shall cover portions of the Work stored off site, and also portions of the Work in transit.

DEN and Contractor shall waive all rights against (1) each other and any of their subcontractors of any tier, and all respective agents and employees, and (2) the architect, architect's consultants, separate contractors, if any, and any of their subcontractors of any tier, and all respective agents and employees, for damages caused by fire or other causes of loss to the extent covered by Builder's Risk Insurance obtained pursuant to this Section or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by DEN as fiduciary. DEN or Contractor, as appropriate, shall require of the architect, architect's consultants, separate contractors, and their subcontractors of any tier, and all respective agents and employees, by appropriate agreements, written where

legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

3.8.2 Claim Chargeback

A claim charge-back will be assessed, regardless of fault, for the amount of any loss payable under this program with the exception of Workers' Compensation and Excess Liability, up to a maximum of \$25,000 each loss. General Contractor may elect to pass no more than \$5,000 of this charge, each loss, through to any responsible subcontractor.

3.9 Other Insurance Provided By Enrolled Parties

At their own expense, the Enrolled Parties of all tiers must carry the following minimum coverage and limits and such insurance shall be evidenced to DEN and the DEN ROCIP Administrator as required in this Section 3.9.

3.9.1 Certificate Holder

Certificate(s) shall be issued to:

CITY AND COUNTY OF DENVER
 Denver International Airport
 8500 Peña Boulevard, Suite 8810
 Denver CO 80249
 Attn: Risk Management

and

CITY AND COUNTY OF DENVER
 Department of Aviation
 c/o Marsh USA, Inc.
 111 SW Columbia, Ste 500
 Portland, OR 97201

3.9.2 Acceptable Certificate of Insurance Form and Submission Instructions

Please read these requirements carefully to ensure proper documentation and receipt of your certificate(s) of insurance.

- ACORD FORM (or equivalent) certificate is required.
- SUBMIT via emailed in pdf format to: contractadmininvoices@flydenver.com
and DenverAirport.ROCIP@marsh.com
- ELECTRONIC CERTIFICATES are required, hard copy documents will not be accepted.
- THIRD PARTY SOFTWARE may be implemented during the term of this Agreement to manage insurance compliance and documents with required use by Vendor of such system.
- REFERENCE on the certificate must include the DEN assigned Contract Number.

3.9.3 Other Insurance Requirements

Enrolled Contractors shall adhere to the same minimum insurance requirements as stated in Section 2 of this exhibit, with the following exceptions:

- Commercial General Liability coverage requirement is Off Site Only

- Workers' Compensation and Employer's Liability coverage requirement is Off Site Only
- Contractor's Pollution Legal Liability is not required

4. Contractor Warranties and Agreements

4.1 Accuracy of Contractor-provided Information

Contractor warrants that all information submitted to DEN or the DEN ROCIP Administrator is accurate and complete to the best of its knowledge. Contractor will notify DEN or the DEN ROCIP Administrator immediately in writing of any errors discovered during the performance of the Work.

4.2 Contractor Responsible to Review Coverage

Contractor acknowledges that all references to DEN ROCIP policy terms, conditions, and limits of liability in this document, as well as the DEN ROCIP Insurance Manual, are for reference only. Contractor and its subcontractors of any tier are responsible for conducting their own independent review and analysis of the DEN ROCIP insurance policies in formulating any opinion or belief as to the applicability of such coverage in the event of any loss or potential claim. Any type of insurance or increase of limits not described above, which the Contractor requires for its own protection or on account of statute, shall be its own responsibility and at its own expense.

4.3 Audit

Contractor agrees to make its records available for review and to cooperate with DEN, its insurers and insurance brokers, the City Auditor, and representatives of the aforesaid parties in the event of an audit. In the event that a DEN audit of Contractor's records, as permitted in the Contract or other DEN ROCIP documents, reveals a discrepancy in the insurance, payroll, safety, or any other information required to be provided to DEN or the DEN ROCIP Administrator, or reveals inclusion of costs for DEN ROCIP coverage or other coverage beyond what is described above in any payment for the Work, DEN will have the right to deduct from payments due Contractor all such insurance costs as well as all audit costs.

4.4 Insurance Costs Removed

Contractor warrants that the costs for insurance as provided under the DEN ROCIP were not included in Contractor's bid or proposal for the Work, the Contract Price/Contract Sum, and will not be included in any change order or any request for payment for the Work or extra work.

5. Contractor Obligations

5.1 ROCIP Documents Shall be Provided to Subcontractor

Contractor shall furnish each bidding subcontractor, vendor, supplier, material dealer or other party a copy of this Exhibit, the DEN ROCIP Insurance Manual and the DEN ROCIP Safety Manual and shall incorporate the terms of this Exhibit in all contracts and agreements entered into for performance of any portion of the Work.

5.2 Timely Enrollment Required

Contractor shall enroll in the DEN ROCIP within five (5) business days following a request by DEN or the DEN ROCIP Administrator. Contractor shall notify each subcontractor of the process for enrolling in DEN ROCIP and confirm that enrollment is mandatory, but not automatic. Contractor shall assure that subcontractors of any tier shall not commence Work until verification of enrollment is confirmed by the DEN ROCIP Administrator by the issuance of a Certificate of Insurance to each individual Enrolled Party.

5.3 Compliance with Conditions

Contractor shall not violate any condition of the policies of insurance provided by DEN under the terms of this Exhibit, the DEN ROCIP Insurance Manual or the DEN ROCIP Safety Manual. All requirements imposed by the subject policies and to be performed by Contractor shall likewise be imposed on, assumed, and performed by each subcontractor of any tier.

5.4 Claims Cooperation

Contractor shall participate in claim reporting procedures. Contractor agrees to assist and cooperate in every manner possible in connection with the adjustment of all claims arising out of operations within the scope of the Work required by the Contract, and to cooperate with DEN's insurer(s) in all claims and demands which DEN's insurer(s) is called upon to adjust or to defend against. Contractor shall take all necessary action to assure that its subcontractors of any tier comply with any request for assistance and cooperation. This obligation includes, without limitation, providing light or modified duty for injured workers, appearing in mediation, arbitration, or court proceedings and/or participating in settlement meetings, as may be required.

5.5 Monthly Payroll Submission

All Enrolled Parties shall submit monthly payrolls and worker-hour reports to DEN and/or the DEN ROCIP Administrator via the DEN ROCIP Administrator's online reporting system as outlined in the DEN ROCIP Insurance Manual. The online reporting instructions will be provided to all Contractors at time of enrollment. Failure to submit these reports may result in funds being held or delayed from monthly progress payments. Payroll must be submitted online for each month, including zero (0) payroll, if applicable, until completion of the Work under each Contract and Subcontract. For subcontractors of any tier performing Work under multiple Subcontracts, a separate payroll report is required for each Subcontract under which Work is being performed.

5.6 Response to Information Requests

All insurance underwriting, payroll, rating or loss history information requested by DEN or the DEN ROCIP Administrator shall be provided by the Contractor within three (3) business days of request. Contractor agrees (and will require each subcontractor to agree) that DEN, DEN's insurers or its representative may audit the Contractor's records or records of subcontractors of any tier to confirm the accuracy of all insurance information provided including, without limitation, any such information that may have any effect on insurance resulting from changes in the Work. At all times during performance of the Contract and Subcontracts, the Contractor and subcontractors of any tier shall cooperate with DEN, the DEN ROCIP Administrator and DEN's insurers.

5.7 Responsibility for Safety

Notwithstanding the DEN ROCIP, the Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with the Work. Contractor is solely responsible, at no adjustment to the contract sum payable or contract time, for initiating, maintaining, and supervising all safety precautions and programs relating to the conduct of Work including, without limitation, any safety programs or procedures that are required by any applicable state or federal laws, rules or regulations, or under the terms of the DEN ROCIP Safety Manual.

5.8 Duty of Care

Nothing herein shall relieve the Enrolled Parties of their respective obligations to exercise due care in the performance of their duties in connection with the Work or to complete the Work in strict compliance with this Contract and subsequent subcontracts.

6. Notices and Costs

6.1 Limitations on DEN Provided Coverage and DEN Right to Purchase Other Coverage

DEN assumes no obligations to provide insurance other than that evidenced by the policies referred to in Section 3.8. DEN, however, reserves the right to furnish insurance coverage of various types and limits provided that such coverage shall not be less than that specified in Section 3.8 and the costs of such insurance shall be paid by DEN. Apart from the DEN ROCIP, DEN may at its option purchase additional insurance coverages that insure the Project that may not necessarily insure the Contractor or the subcontractors. Without limitation, examples of such coverage may include pollution liability, excess professional liability, and excess automobile liability insurance.

6.2 Contractors Responsible for Own Equipment

Contractor and subcontractors are solely responsible for loss or damage of all construction tools and other equipment whether owned, leased, rented, borrowed, or used on Work at the Project Site. If an individual Enrolled Party purchases insurance on their tools and equipment, such insurance shall contain a waiver of subrogation in favor of the City and County of Denver, its elected and appointed officials, agents, employees and volunteers and all other Enrolled Parties. If an individual Enrolled Party does not purchase such insurance, that Enrolled Party will hold harmless the City and County of Denver, its elected and appointed officials, agents, employees and volunteers and other Enrolled Parties for loss or damage to its tools and equipment.

6.3 No Release; No Waiver of Immunity

The provision of the DEN ROCIP shall in no way be interpreted as relieving Contractor or subcontractors of any tier of any responsibility or liability under the Contract Documents, the DEN ROCIP insurance policies or applicable laws including, without limitation, Contractor's and subcontractor's responsibilities relative to indemnification and their obligation to exercise due care in the performance of the Work and to complete the Work in strict compliance with the Contract Documents. The parties hereto understand and agree that the City and County of Denver, its elected and appointed officials, agents, employees and volunteers are relying on, and do not waive or intend to waive by any provisions of this agreement, the monetary limitations or any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, §§ 24-10-101 to 120, C.R.S., or otherwise available to DEN, its officers, officials and employees.

6.4 DEN Right to Withhold Payments

In addition to any other rights of withholding that DEN may have under the Contract Documents, DEN has the right to withhold any payments otherwise due to Contractor in the event of a failure by Contractor or any subcontractor to comply with the requirements of this Exhibit, the DEN ROCIP Insurance Manual or the DEN ROCIP Safety Manual. DEN may withhold from any payment owing to Contractor the costs of DEN ROCIP coverages if included in a request for payment. Such withholding by DEN shall not be deemed to be a default under the Contract. DEN shall withhold from Contractor the costs of DEN ROCIP coverages attributable to an increase in an Enrolled Party's total payroll for the Work over the amount reported to DEN and/or the DEN ROCIP Administrator at time of enrollment.

6.5 DEN Remedies

Without limitation upon any of DEN's other rights or remedies, any failure of an Enrolled Party to comply with any provision of this Exhibit, the DEN ROCIP Insurance Manual, or the DEN ROCIP Safety Manual shall be deemed a material breach of the Contract, thereby entitling DEN, at its option, upon notice to Contractor, to (1) suspend performance by Contractor and/or the offending subcontractor, without any adjustment to Contract Sum Payable or Contract Time, until there is full compliance, or (2) terminate this Contract for cause.

6.6 Off Site Storage

Unless otherwise provided in the Contract Documents, the property insurance provided by DEN shall not cover portions of the Work stored off the Site without written approval of DEN. Contractor shall be responsible for reporting such property or work if ownership has been transferred to DEN. If ownership rests with the Contractor, Contractor shall be responsible for obtaining insurance to protect its interests.

6.7 Partial Occupancy

Partial occupancy or use shall not commence until DEN insurer(s) providing Builders Risk and/or Property Insurance have consented to such partial occupancy or use by endorsement or otherwise. DEN and the Contractor shall take reasonable steps to obtain consent of the insurer(s) and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

6.8 DEN Right to Exclude Parties from the DEN ROCIP

DEN reserves the right to exclude any subcontractor from the DEN ROCIP, before or after enrollment by the subcontractor. If DEN elects to exclude a subcontractor from the DEN ROCIP, the Contractor will be responsible for ensuring the insurance coverages outlined in the Contractor’s Subcontract Agreement are provided to DEN or the DEN ROCIP Administrator before the subcontractor can begin or resume Work on the Project.

6.9 DEN’s Right to Modify or Discontinue DEN ROCIP Coverages

If DEN determines that modification or discontinuation of the DEN ROCIP is in the best interest of DEN, the Contractor and subcontractor will receive sixty (60) days advance written notice to secure and maintain such insurance as is required to provide replacement coverage comparable to that provided under the DEN ROCIP. Provided that the foregoing is not the result of any failure by the Contractor or any subcontractor to comply with the requirements of the Contract Documents, the DEN ROCP Insurance Manual or DEN ROCIP Safety Manual, the costs of such replacement insurance shall be deemed a cost of Work for which the Contractor shall be entitled to a Contract Adjustment, without any sum added thereto for Allowable Markup. The form, content, limits of liability, cost and the rating of the insurer(s) issuing such replacement coverage shall be subject to DEN’s prior written approval.

7. Definitions

Certificate of Insurance:	A document providing evidence of coverage for a particular insurance policy or policies. This will include certificates issued to Enrolled Parties evidencing the coverage afforded under the DEN ROCIP and certificates issued to DEN evidencing additional coverage “Provided by Enrolled Parties”
DEN:	City and County of Denver and Denver International Airport
Contract:	The written agreement between DEN and Contractor describing the Work, contract terms and conditions, or a portion thereof; also includes a written agreement between a Contractor and any subcontractor as well as between subcontractors and their subcontractors of any tier.
Contractor Insurance Cost:	The costs of ROCIP coverage are defined as the amount of Contractor’s and eligible Subcontractors’ of every tier reduction in insurance costs due to participation in the DEN ROCIP.

Rolling Owner Controlled Insurance Program (ROCIP): A coordinated insurance program providing certain coverage, as defined herein, for DEN, Contractor and Enrolled Subcontractors, along with their Eligible Employees, performing Work at the Project Site.

Eligible Employees: Employees of the Contractor and Enrolled Subcontractors who are not excluded from the ROCIP under the “Excluded Parties” definition.

Enrolled Parties: The Contractor and those subcontractors that have submitted all necessary enrollment information and been accepted into the ROCIP as evidenced by the issuance of a Certificate of Insurance.

Ineligible/Excluded Parties: Parties not covered by the ROCIP because of ineligibility or DEN explicit exclusion. No insurance coverage provided by DEN under the ROCIP shall extend to the activities or products of the following:

- Any person or organization that fabricates or manufactures products, materials or supplies away from a Project Site with no direct onsite installation responsibility

Exception: The ROCIP Insurer may agree to extend General Liability coverage only if the General Contractor has a written contract with the off-site fabricator or manufacturer to provide the pre-fabricated product. To consider extending coverage, the Insurer requires 30 days advance written notice to the ROCIP Administrator with details of the work/product and a copy of the contract between the General Contractor and the off-site fabricator or manufacturer. Approval must be obtained from the Insurer before enrolling in the ROCIP for General Liability coverage only.

- Scaffolding contractors (erecting and dismantling scopes of work only)
- Hazardous materials remediation, removal, or transportation companies and their consultants
- Architects, engineers, surveyors and their consultants
- Truckers, haulers, material dealers, vendors, suppliers, and others who merely transport, pick up, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from a Project Site including companies providing supplemental services
- Contractors, subcontractors and subconsultants who do not work at a Project Site
- Employees of an Enrolled Party who either (i) do not work on-site or (ii) occasionally visit a Project Site to make deliveries, pick-up supplies or personnel, to perform supervisory or progress inspections, or for any other reason

- Temporary labor employees (individuals working directly for the Contractor and not procured through a third party such as a Professional Employer Organization)

Exception: The ROCIP Insurer typically will accept including employees working for a contractor, or employed by temporary staffing agencies or professional employer organizations, as long as those employer-entities are enrolled as subcontractors to supply supplemental workforce.

Insured: (liability policies)	DEN, Contractor and Enrolled Parties and their Eligible Employees and any other party named in the insurance policies.
Insurers:	Those insurance companies providing the DEN ROCIP coverage. The insurers will be identified on the issued Certificate of Insurance and in the DEN ROCIP Insurance Manual.
Net Bid:	Contractor bids with insurance costs removed because of the obligation of any Enrolled Party to delete insurance costs for coverage provided by the ROCIP from its bid and all change orders. Net bids are subject to verification by the Administrator through the providing of contractors' rate and declaration pages from their Insurance policies.
ROCIP Administrator:	The DEN ROCIP Administrator will be identified in the DEN ROCIP Insurance Manual.
ROCIP Insurance Manual:	A reference document provided to Contractor and subcontractors of all tiers, which summarizes the terms and provisions of the DEN ROCIP and provides information about requirements and compliance.
ROCIP Safety Manual:	A reference document provided to Contractor and subcontractors of all tiers which contains workplace safety requirements of all Enrolled Parties.
Off Site Work:	Work performed away from the Project Site.
Payroll:	For purposes of the ROCIP only, refers to Unburdened Straight Time Payroll per Workers Compensation Class Code.
Policy Owner:	City and County of Denver and Denver International Airport
Project:	The Project as defined in the contract documents and as described in the Declarations of the DEN ROCIP insurance policies.

Project Site: Means those areas designated in writing by DEN in a Contract document for performance of the Work and such additional areas as may be designated in writing by DEN for Contractors' use in performance of the Work. Subject to the ROCIP Insurer(s) written approval, the term "Project Site" shall also include: (1) field office sites, (2) property used for bonded storage of material for the Project approved by DEN, (3) staging areas dedicated to the Project, and (4) areas where activities incidental to the Project are being performed by Contractor or subcontractors covered by the DEN ROCIP Worker's Compensation policy (if included), but excluding any permanent locations of any Enrolled Party.

Items 1 through 4 above must be approved by the ROCIP Insurer and listed on the DEN ROCIP insurance policies.

Subcontract: The written agreement between Contractor and subcontractor, or between subcontractor and a lower tier subcontractor, describing the Work, subcontract terms and conditions, or a portion thereof.

Subcontractor: Includes those persons, firms, joint venture entities, corporations, or other parties that enter into a Subcontract with Contractor to perform Work at the Project Site and any of these subcontractor's lower-tier subcontractors.

Work: Construction build operations, as fully described in the Contract and Subcontract, performed at the Project Site.

Exhibit D

City and County of Denver



TIMOTHY M. O'BRIEN, CPA
AUDITOR

201 West Colfax Avenue, #705 • Denver, Colorado 80202
(720) 913-5000 • Fax (720) 913-5253 • denvergov.org/auditor

TO: All Users of the City and County of Denver Prevailing Wage Schedules
FROM: Luis Osorio Jimenez, Prevailing Wage Administrator
DATE: August 6, 2024
SUBJECT: Latest Change to Prevailing Wage Schedules

The effective date for this publication will be, **Tuesday, August 6, 2024**, and applies to the City and County of Denver for **HIGHWAY CONSTRUCTION PROJECTS** (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) in accordance with the Denver Revised Municipal Code, Section 20-76(c).

General Wage Decision No. CO 20240009
Superseded General Decision No. CO 20230009
Modification No. 3
Publication Date: 8/2/2024
(9 pages)

Unless otherwise specified in this document, apprentices shall be permitted only if they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor (DOL). The employer and the individual apprentice must be registered in a program which has received prior approval by the DOL. Any employer who employs an apprentice and is found to be in violation of this provision shall be required to pay said apprentice the full journeyman scale.

Attachments as listed above.

In accordance to the amendment of Section 20-76, Division 3, Article IV, Chapter 20 of the Denver Revised Municipal Code enacted on Aug 21st, 2023, the Prevailing Wage Administrator is authorized to approve and adjust all Davis Bacon classifications under \$18.29 to comply with the city's minimum wage. Contractors will also have to comply with the established Minimum Wage of \$18.29 for all apprentice classifications as base rate. Fringes will be added in to the base rate amount.

"General Decision Number: CO20240009 08/02/2024

Superseded General Decision Number: CO20230009

State: Colorado

Construction Type: Highway

Counties: Denver and Douglas Counties in Colorado.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.

Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered	. Executive Order 14026
into on or after January 30,	generally applies to the
2022, or the contract is	contract.
renewed or extended (e.g., an	. The contractor must pay
option is exercised) on or	all covered workers at
after January 30, 2022:	least \$18.29 per hour (or
	the applicable wage rate
	listed on this wage
	determination, if it is
	higher) for all hours

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	05/31/2024
2	07/05/2024
3	08/02/2024

CARP9901-008 05/01/2024

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 33.11	12.17

ELEC0068-016 03/01/2011

	Rates	Fringes
TRAFFIC SIGNALIZATION:		
Traffic Signal Installation		
Zone 1.....	\$ 26.42	4.75%+8.68
Zone 2.....	\$ 29.42	4.75%+8.68

TRAFFIC SIGNAL INSTALLER ZONE DEFINITIONS

Zone 1 shall be a 35 mile radius, measured from the following addresses in each of the following cities:
Colorado Springs - Nevada & Bijou
Denver - Ellsworth Avenue & Broadway
Ft. Collins - Prospect & College
Grand Junction - 12th & North Avenue
Pueblo - I-25 & Highway 50
All work outside of these areas shall be paid Zone 2 rates.

* ENGI0009-008 05/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
(3)-Hydraulic Backhoe		
(Wheel Mounted, under 3/4		
yds), Hydraulic Backhoe		
(Backhoe/Loader		

combination), Drill Rig Caisson (smaller than Watson 2500 and similar), Loader (up to and including 6 cu. yd.).....\$ 35.03	15.20
(3)-Loader (under 6 cu. yd.) Denver County.....\$ 35.03	15.20
(3)-Motor Grader (blade- rough) Douglas County.....\$ 33.19	15.20
(4)-Crane (50 tons and under), Scraper (single bowl, under 40 cu. yd).....\$ 35.78	15.20
(4)-Loader (over 6 cu. yd) Denver County.....\$ 35.20	15.20
(5)-Drill Rig Caisson (Watson 2500 similar or larger), Crane (51-90 tons), Scraper (40 cu.yd and over),.....\$ 35.41	15.20
(5)-Motor Grader (blade- finish) Douglas County.....\$ 35.58	15.20
(6)-Crane (91-140 tons).....\$ 35.28	15.20

* SUCO2011-004 09/15/2011

	Rates	Fringes
CARPENTER (Excludes Form Work)...	\$ 19.27	5.08
CEMENT MASON/CONCRETE FINISHER		
Denver.....	\$ 20.18	5.75
Douglas.....	\$ 18.75	3.00
ELECTRICIAN (Excludes Traffic Signal Installation).....	\$ 35.13	6.83
FENCE ERECTOR (Excludes Link/Cyclone Fence Erection).....	\$ 18.42 **	3.20
GUARDRAIL INSTALLER.....	\$ 18.29 **	3.20

HIGHWAY/PARKING LOT

STRIPING:Painter

Denver.....	\$ 18.29	**	3.21
Douglas.....	\$ 19.56	**	3.21

IRONWORKER, REINFORCING

(Excludes Guardrail

Installation).....	\$ 55.25	**	3.65
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IRONWORKER, STRUCTURAL/ORNAMENTAL

(Includes Link/Cyclone Fence

Erection, Excludes Guardrail

Installation).....	\$ 37.23	**	12.79
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LABORER

Asphalt Raker.....	\$ 18.29	**	4.25
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Asphalt Shoveler.....	\$ 21.21		4.25
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Asphalt Spreader.....	\$ 18.58		4.65
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Common or General

Denver.....	\$ 18.78	**	6.77
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Douglas.....	\$ 18.28	**	4.25
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Concrete Saw (Hand Held)....	\$ 18.29	**	6.14
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Landscape and Irrigation....	\$ 18.29	**	3.16
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Mason Tender-

Cement/Concrete

Denver.....	\$ 18.29	**	4.04
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Douglas.....	\$ 18.96	**	4.25
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Pipelayer

Denver.....	\$ 18.29	**	2.41
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Douglas.....	\$ 18.96	**	2.18
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Traffic Control (Flagger)...	\$ 18.29	**	3.05
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Traffic Control (Sets

Up/Moves Barrels, Cones,

Install Signs, Arrow

Boards and Place

Stationary Flags) (Excludes

Flaggers).....	\$ 21.17	**	3.22
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PAINTER (Spray Only).....	\$ 18.29	**	2.87
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POWER EQUIPMENT OPERATOR:

Asphalt Laydown

Denver.....	\$ 22.67		8.72
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Douglas.....	\$ 23.67	8.47
Asphalt Paver		
Denver.....	\$ 24.97	6.13
Douglas.....	\$ 25.44	3.50
Asphalt Roller		
Denver.....	\$ 23.13	7.55
Douglas.....	\$ 23.63	6.43
Asphalt Spreader.....	\$ 22.67	8.72
Backhoe/Trackhoe		
Douglas.....	\$ 23.82	6.00
Bobcat/Skid Loader.....	\$ 18.29 **	4.28
Boom.....	\$ 22.67	8.72
Broom/Sweeper		
Denver.....	\$ 22.47	8.72
Douglas.....	\$ 22.96	8.22
Bulldozer.....	\$ 26.90	5.59
Concrete Pump.....	\$ 21.60	5.21
Drill		
Denver.....	\$ 20.48	4.71
Douglas.....	\$ 20.71	2.66
Forklift.....	\$ 18.29 **	4.68
Grader/Blade		
Denver.....	\$ 22.67	8.72
Guardrail/Post Driver.....	\$ 18.29 **	4.41
Loader (Front End)		
Douglas.....	\$ 21.67	8.22
Mechanic		
Denver.....	\$ 22.89	8.72
Douglas.....	\$ 23.88	8.22
Oiler		
Denver.....	\$ 23.73	8.41
Douglas.....	\$ 24.90	7.67
Roller/Compactor (Dirt and Grade Compaction)		
Denver.....	\$ 20.30	5.51
Douglas.....	\$ 22.78	4.86
Rotomill.....	\$ 18.29 **	4.41
Screed		
Denver.....	\$ 22.67	8.38
Douglas.....	\$ 29.99	1.40
Tractor.....	\$ 18.29 **	2.95

TRAFFIC SIGNALIZATION:
Groundsman

Denver.....	\$ 18.29	3.41
Douglas.....	\$ 18.67	7.17

TRUCK DRIVER

Distributor

Denver.....	\$ 19.12	5.82
Douglas.....	\$ 18.29 **	5.27

Dump Truck

Denver.....	\$ 18.29 **	5.27
Douglas.....	\$ 19.41 **	5.27

Lowboy Truck.....	\$ 18.29	5.27
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Mechanic.....	\$ 26.48	3.50
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Multi-Purpose Specialty &
Hoisting Truck

Denver.....	\$ 18.29	3.17
Douglas.....	\$ 20.85	2.88

Pickup and Pilot Car

Denver.....	\$ 18.29 **	3.77
Douglas.....	\$ 20.48 **	3.68

Semi/Trailer Truck.....	\$ 18.39	4.13
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Truck Mounted Attenuator....	\$ 18.29 **	3.22
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Water Truck

Denver.....	\$ 26.27	5.27
Douglas.....	\$ 19.46	2.58

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

**Administrator Supplemental Rates
(Specific to the Denver projects)
Revision Date: 01-01-2024**

Classification		Base	Fringe
Guard Rail Installer		\$18.29	\$3.20
Highway Parking Lot Striping: Painter		\$18.29	\$3.21
Laborer	Removal of Asbestos	\$21.03	\$8.55
Laborer (Landscape & Irrigation)		\$18.29	\$3.16
Line Construction	Lineman, Gas Fitter/Welder	\$36.88	\$9.55
	Line Eq Operator/Line Truck Crew	\$25.74	\$8.09
Millwright		\$28.00	\$10.00
Pipefitter		\$30.45	\$12.85
Plumber		\$30.19	\$13.55
Power Equipment Operator (Tunnels Above and Below Ground, shafts and raises):	Group 1	\$25.12	\$10.81
	Group 2	\$25.47	\$10.85
	Group 3	\$25.57	\$10.86
	Group 4	\$25.82	\$10.88
	Group 5	\$25.97	\$10.90
	Group 6	\$26.12	\$10.91
	Group 7	\$26.37	\$10.94
Power Equipment Operator	Group 1	\$22.97	\$10.60
	Group 2	\$23.32	\$10.63
	Group 3	\$23.67	\$10.67
	Group 4	\$23.82	\$10.68
	Group 5	\$23.97	\$10.70
	Group 6	\$24.12	\$10.71
	Group 7	\$24.88	\$10.79
Truck Driver	Group 1	\$18.42	\$10.00
	Group 2	\$19.14	\$10.07
	Group 3	\$19.48	\$10.11
	Group 4	\$20.01	\$10.16
	Group 5	\$20.66	\$10.23
	Group 6	\$21.46	\$10.31
Truck Driver: Truck Mounted Attenuator		\$18.29	\$3.22

Go to <http://www.denvergov.org/Auditor> to view the Prevailing Wage Clarification Document for a list of complete classifications used

DESIGN, ENGINEERING AND CONSTRUCTION
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)

STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL CONTRACT CONDITIONS

Office of Primary Responsibility: Design Engineering and Construction –
Project Delivery Office

Supersedes: STANDARD SPECIFICATIONS FOR CONSTRUCTION, SPECIAL CONTRACT CONDITIONS, FEBRUARY 2025, REV 3

Certified by: Senior Director, Project Delivery

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DESIGN, ENGINEERING AND CONSTRUCTION
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)

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The City and County of Denver (“City”) Construction Contract General Conditions, which constitute a part of the Contract Documents, are outlined in a separately published document entitled “City and County of Denver, Department of Aviation and Department of Public Works, Standard Specifications for Construction, General Contract Conditions,” 2011 Edition (informally referred to as the “Yellow Book”). The General Contract Conditions are also available at:

<https://www.denvergov.org/content/dam/denvergov/Portals/743/documents/2011%20DENVER%20GENERAL%20CONTRACT%20CONDITIONS.pdf>.

The following are listed and deemed as "Special Conditions" (“SC”) as listed in the terms and definitions of the contract documents, the Standard Specifications for Construction, and General Contract Conditions.

TITLE 1 DEFINITIONS

SC-101 CITY

Reserved.

SC-102 CONTRACT

Reserved.

SC-103 CONTRACT AMOUNT

Reserved.

SC-104 CONTRACT DOCUMENTS

- .1 General Condition 104 is hereby amended to include: The City, through DEN, will provide the following Contract Documents to the Contractor in electronic format at no expense to the Contractor:
 - A. Document(s):
 - (1) Technical Specifications, dated 10/10/2024
 - (2) Design Standard Manuals (<https://www.flydenver.com/business-and-community/tenant-information/#designstandards>)
 - (3) 2024-LOG-0003596 Plan Review Approval
 - (4) 204-04-05 100 percent D_R Calculations
 - B. Drawings: Depending on the contracting methodology, the City will provide drawings and specifications specific to the work contemplated at the time that the DEN solicits the Contractor’s proposal for the work contemplated. Final versions of these drawings and specifications will be provided to the Contractor and incorporated, as applicable, and shall become Contract Documents. Additional copies of the Contract Documents may be

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furnished to the Contractor at the Contractor's expense. The Contractor shall be responsible for supplying all subcontractors with copies of the Contract Documents at the Contractor's expense.

(1) 2024-11-13_DEN_Lvl05 domes and Ramps_IFC Project Manual

- .2 Additional copies of the Contract Documents may be furnished to the Contractor at the Contractor's expense. The Contractor shall be responsible for supplying all subcontractors with copies of the Contract Documents at the Contractor's expense. If Sensitive Security Information ("SSI") is provided to the Contractor, the Contractor shall comply with 49 C.F.R. § 1520 or its successor.

SC-105 CONTRACT TIME

Reserved.

SC-106 CONTRACTOR

Reserved.

SC-107 CONTRACTOR PERSONNEL

Reserved.

SC-108 DAYS

Reserved.

SC-109 DEPUTY MANAGER

Reserved.

SC-110 DESIGNER

Reserved.

SC-111 FINAL COMPLETION

Reserved.

SC-112 MANAGER

Reserved.

SC-113 PRODUCT DATA

Reserved.

SC-114 PROJECT

Reserved.

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SC-115 PROJECT MANAGER

Reserved.

SC-116 SAMPLES

Reserved.

SC-117 SHOP DRAWINGS

Reserved.

SC-118 SUBCONTRACTOR

Reserved.

SC-119 SUBSTANTIAL COMPLETION

- .1 General Contract Condition 119, SUBSTANTIAL COMPLETION, is hereby deleted in its entirety and replace with the following:
 - A. “Substantial Completion” of the Work means the Work has progressed to the point that the City can beneficially occupy and utilize the Work for the purposes for which it is intended, and the Work complies with all applicable codes and regulations, including, if required, issuance of a certificate of occupancy, or certification of suitability for use from the appropriate governmental agencies, as determined by the Project Manager in their sole discretion.
 - B. Substantial Completion includes, without limitation, the achievement of the following specific conditions:
 - (1)
 - (2) all Work is in compliance with all applicable laws and the Contract Documents.
 - C. The achievement of Substantial Completion shall be determined by the Project Manager in their sole discretion. The Project Manager will advise the Contractor in writing when Substantial Completion of the Work has been achieved.

SC-120 SUPPLIER

Reserved.

SC-121 WORK

- .1 General Condition 121, WORK, is hereby amended to include: “The terms “Scope of Work” or “Work” shall be included in the definition of WORK and have the meaning set forth in the Scope of Work and elsewhere in the Contract and Contract Documents.”

TITLE 2 CITY ADMINISTRATIVE ORGANIZATIONS; LINE OF AUTHORITY

.1 The second sentence of General Condition 201, DEPARTMENT OF AVIATION (“DEN” or “Airport”), is amended to read: “The unit responsible for this management and control is the Design, Engineering, and Construction Division (“DEC”) under the supervision of the Senior Vice President for the Design, Engineering, and Construction Division.

Reserved.

Reserved.

Reserved.

Reserved.

Reserved.

Reserved.

Reserved.

Reserved.

Reserved.

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SC-211 OFFICE OF RISK MANAGEMENT

Reserved.

SC-212 CITY'S CONTRACT ADMINISTRATION LINE OF AUTHORITY

- .1 In accordance with General Condition 212, CITY'S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the City's line of authority for the administration of this Contract is:
 - A. Chief Executive Officer, Department of Aviation ("CEO"). Executive Office, 9th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249. Any reference to the Manager of Aviation shall also mean the CEO.
 - B. Executive Vice President – Chief Construction and Infrastructure Officer ("EVP-CCIO"), who reports to the CEO. Executive Office, 9th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
 - C. Senior Vice President – Design, Engineering, and Construction f/k/a Airport Infrastructure Management ("SVP-DEC") who reports to the EVP-CCIO. DEC, 7th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
 - D. Senior Director of Project Delivery, who reports to the SVP-DEC. DEC, 7th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
 - E. Director of Facility Design and Construction, who reports to the Senior Director of Project Delivery. DEC, 7th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
 - F. The Project Manager is the City representative with day-to-day administrative responsibility for this Contract and reports to the Director of Facility Design and Construction. All notices, requests, pay applications (pursuant to General Condition 902), and other correspondence from the Contractor shall be sent to the assigned Project Manager unless otherwise provided in this Contract.
 - G. The CEO may occasionally substitute a different City official as the designated "SVP-DEC" hereunder, and any such change will be effective upon the issuance of written notice to the Contractor, which identifies the successor SVP-DEC. The SVP-DEC may, from time to time, change the assigned Project Manager, and any such change will be effective upon the issuance of written notice to the Contractor, which identifies the successor, the Project Manager.

SC-213 CITY'S COMMUNICATIONS WITH THE CONTRACTOR

Reserved.

TITLE 3 CONTRACTOR PERFORMANCE AND SERVICES

SC-301 CONSIDERATION (CONTRACTOR'S PROMISE OF PERFORMANCE)

Reserved.

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SC-302 NOTICE TO PROCEED AND COMPLETION OF THE WORK

Reserved.

SC-303 EXACT CONTRACTOR PERFORMANCE

Reserved.

SC-304 SUBSTITUTED PERFORMANCE

Reserved.

SC-305 WORK PERFORMED UNDER ADVERSE WEATHER CONDITIONS

Reserved.

SC-306 WORKING HOURS AND SCHEDULE

Reserved.

SC-307 CONTRACTOR'S SUPERINTENDENT

Reserved.

SC-308 COMMUNICATIONS

- .1 General Condition 308, COMMUNICATIONS, is hereby amended to include:
 - A. The Contract or shall be required to use the designated Project Management Information System ("PMIS") as specified by DEN to ensure compliance with project controls, information management, data analysis, and document control requirements. DEN will provide access, licensing, and necessary training for the designated PMIS.
 - B. The Contractor shall be responsible for providing and maintaining the necessary computer hardware, software, and system environment compatible with the PMIS and project controls requirements. This includes ensuring connectivity, operating system compatibility, and support for required applications.
 - C. All system requirements and specifications are subject to modification at DEN's sole discretion. The Contractor shall adhere to all project controls, technical specifications, and process guidelines as outlined by DEN.

SC-309 CONTRACTOR SUBMITTALS AND OTHER WRITTEN COMMUNICATIONS TO THE CITY

Reserved.

SC-310 COMPETENCE OF CONTRACTOR'S WORK FORCE

Reserved.

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SC-311 NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE CONTRACT

- .1 General Condition 311, NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE CONTRACT, is hereby deleted and replaced with the following: This requirement has been repealed and is no longer applicable.

SC-312 CONDUCT OF CONTRACTOR'S PERSONNEL

Reserved.

SC-313 SUGGESTIONS TO CONTRACTOR

Reserved.

SC-314 WORK FORCE

Reserved.

SC-315 CONSTRUCTION MACHINES AND STANDBY EQUIPMENT

Reserved.

SC-316 CUTTING AND PATCHING THE WORK

Reserved.

SC-317 PERMITS AND LICENSES

Reserved.

SC-318 CONSTRUCTION SURVEYS

Reserved.

SC-319 PRESERVATION OF PERMANENT LAND SURVEY CONTROL MARKERS

Reserved.

SC-320 TRADEMARKS, COPYRIGHTS AND PATENTED DEVICES, MATERIALS, AND PROCESSES

Reserved.

SC-321 PROJECT SIGNS

Reserved.

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SC-322 PUBLICITY AND ADVERTISING

Reserved.

SC-323 TAXES

Reserved.

SC-324 DOCUMENTS AND SAMPLES AT THE SITE

Reserved.

SC-325 CLEANUP DURING CONSTRUCTION

Reserved.

SC-326 SANITARY FACILITIES

Reserved.

SC-327 POWER, LIGHTING, HEATING, VENTILATING, AIR CONDITIONING AND WATER SERVICES

Reserved.

TITLE 4 CONTRACT DOCUMENTS (DRAWINGS AND SPECIFICATIONS)

SC-401 CONTRACT DOCUMENTS - REVIEW AND INTERPRETATION

Reserved.

SC-402 OWNERSHIP OF CONTRACT DRAWINGS AND TECHNICAL SPECIFICATIONS

Reserved.

SC-403 CONTRACT DRAWINGS AND TECHNICAL SPECIFICATIONS ISSUED TO THE CONTRACTOR

- .1 General Conditions 403, CONTRACT DRAWINGS AND TECHNICAL SPECIFICATIONS ISSUED TO THE CONTRACTOR, is hereby deleted and replaced with the following: Contractor must maintain a digital set of Contract Drawings, Technical Specifications, and digital model of the Work, utilizing Building Information Modeling (BIM) and Virtual Design and Construction (VDC) practices, in the City's Common Data Environment (CDE) and in a format compatible with the

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City's BIM requirements for the purpose of recording "as-built" conditions in order to develop and maintain a record of the construction of the Work. In this digital set, the contractor shall record daily all changes and deviations to a level of development defined within the City to reflect as-built conditions accurately throughout the construction process. This document shall serve as the primary record of all changes, deviations, and construction progress.

- A. Change and Deviation Documentation: The Contractor shall utilize the CDE to document all changes and deviations from Contract Drawings and Technical Specifications, regardless of their perceived significance. This documentation shall include:
- (1) The nature of the change or deviation
 - (2) Date of occurrence
 - (3) Location within the project area
 - (4) Authorization for the change (if applicable)
- B. Digital As-Built Delivery: In-progress as-builts shall be delivered at time of Substantial Completion and at any beneficial use or other handover identifying scope of handover and documentation with final as-builts to follow within thirty (30) days of respective turnover. Prior to Final Completion, the Contractor shall deliver a final, comprehensive as-built set and model that accurately reflects the constructed Work. These as-builts shall be in a format compatible with the City's BIM requirements and shall include:
- (1) All model elements and their required associated data
 - (2) Records of changes and deviations

SC-404 REQUESTS FOR INFORMATION OR CLARIFICATION

Reserved.

SC-405 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- .1 In accordance with General Condition 405.7, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, is hereby deleted and replaced with:
- A. The Contractor shall submit Shop Drawings, Product Data, Samples, certificates and test results electronically shall be entered in the DEN Common Data Environment defined in SC-403.1.

SC-406 SUBSTITUTION OF MATERIALS AND EQUIPMENT

Reserved.

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TITLE 5 SUBCONTRACTS

SC-501 SUBCONTRACTS

- .1 In accordance with General Condition 501, no more than ninety-six percent (96%) of the Work may be subcontracted. If it is determined to be in the City’s best interest, the SVP-DEC may modify this percentage during the Term of the Contract by prior written authorization.

SC-502 SUBCONTRACTOR ACCEPTANCE

Reserved.

TITLE 6 TIME OF COMMENCEMENT AND COMPLETION

SC-601 BEGINNING, PROGRESS AND TIME OF COMPLETION

- .1 General Condition 601, BEGINNING, PROGRESS AND TIME OF COMPLETION, is hereby amended to include:

A. PERFORMANCE AND COMPLETION OF THE WORK

(1) The Work to be performed under the Contract is described in the Technical Specifications and Contract Drawings. The Contractor shall complete the Work within 186 consecutive calendar days from the NTP. The Work to be performed under the Contract may be divided into the Milestone Areas which are described in the Technical Specifications or Contract Drawings. The Contractor shall complete the work included within these areas within the number of days set forth by the Project Manager.

	Milestone	Date of Completion (or, days from NTP)
1.	Substantial completion	186 days from Construction NTP
2.	Final Completion/Close out	286 days from Construction NTP

SC-602 LIQUIDATED DAMAGES, ADMINISTRATIVE COSTS; ACTUAL DAMAGES

- .1 If the Contractor fails to complete the Work with the time specified, including and Milestones identified therein, or if the Contractor causes disruptions to DEN activities or operation as defined in the Contract Documents, the Contractor shall pay the City liquidated damages in the amount noted below per day until substantial completion is achieved. In an instance where damages with a monetary impact are caused to the City, the Contractor shall reimburse the City for actual costs incurred.

	Milestone	Liquidated Damages, per day
1.	Substantial completion	\$10,000

- A. The Contract and General Condition 602 cover payment and withholding of liquidated damages.

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- B. Within one hundred (100) days after issuance of Substantial Completion, all documentation required by this Contract to achieve Project Closeout shall be submitted. Failure to submit all required documentation shall result in fees to compensate the City for project management work while the project remains open. These shall be assessed even if no liquidated damages are provided or paid for late completion.
- C. A Liquidated Damage rate of \$450 per day for each day over 100 days that Contractor does not complete all required tasks and submittals to achieve Final Acceptance pursuant to General Condition 2002.2. If the City imposes and collects Liquidated Damages in any amount for late completion of milestones or other deadlines, the City will not also impose and collect late closeout fees pursuant to this Special Condition. The resubmittal of required documents may extend the 100-day time frame at the DEN Project Manager's discretion.

SC-603 DELAY DAMAGES

Reserved.

TITLE 7 COOPERATION, COORDINATION AND RATE OF PROGRESS

SC-701 COOPERATION WITH OTHER WORK FORCES

.1 General Condition 701 is amended to include:

- A. The Technical Specifications describe the constraints on the physical work site areas. These descriptions are not exhaustive, and the Contractor is required to coordinate its activities and work as may be required to meet Federal Aviation Administration ("FAA") or City requirements while performing the Work at DEN.
- B. Without limiting the foregoing, other contracts administered by the City may involve work overlapping or adjoining the Work under this Contract and may be performed concurrently with the Work performed under this Contract. The Contractor is required to coordinate its performance of the Work with all other contractors, parties and stakeholders.

SC-702 COORDINATION OF THE WORK

.1 General Condition 702 is hereby amended to include:

A. CONSTRUCTION ACCESS

- (1) The work site is located at DEN Jeppesen Terminal, Level 5 Roadways West and East 8400 Pena Boulevard on airport property as identified. The Contractor shall have access to the work site via Jeppesen Terminal Level 5 Roadways East and West. The Contractor shall be responsible for submitting a map detailing the routing of materials and

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- equipment to the DEN jobsite for approval. No equipment or materials are allowed on site without the Project Manager's approval.
- (2) The City will not provide parking spaces for the Contractor's employees or subcontractor employees at the Airport. Arrangements for transportation and parking for all employees, including subcontractors, shall be the responsibility of the Contractor. The Total Task Order Bid Amount shall include all costs associated with the Contractor's and subcontractors' employee parking. Information about parking facilities and charges is available from the Airport Parking Office. Refundable deposits are required for all parking passes.
- (3) Unless specifically required by the Contract Documents, the Contractor shall install no fences or other physical obstructions on or around any project work area without the approval of the City.

SC-703 COORDINATION OF PUBLIC CONTACT

.1 General Condition 703 is hereby amended to include:

A. ACCESSIBLE PARKING SPACES, ACCESS AISLES AND ROUTES OF TRAVEL

- (1) The Contractor is responsible for compliance with this Special Condition for any Work performed in or adjacent to parking facilities at the Airport.
- (2) "Accessible" parking spaces and access aisles as used mean parking spaces and access aisles that are accessible for and reserved for use by persons with disabilities. These parking spaces and access aisles are designed and built to standards established by federal regulations implementing the Americans with Disabilities Act of 1990 ("ADA") and are marked by signage. "Accessible routes of travel" as used herein means routes through parking facilities which comply with ADA accessibility standards, including degree of slope and absence of obstructions.
- (3) Accessible routes of travel and accessible parking spaces and access aisles must be kept free of obstructions and construction debris at all times. No accessible parking spaces or access aisles or accessible routes of travel shall be relocated, blocked or rendered unusable unless the contractor has obtained specific advance approval in writing for such actions from the DEN's ADA Compliance Officer.
- (4) When the Work requires that accessible spaces be temporarily blocked, those accessible spaces and their access aisles shall be temporarily relocated to another location as close as possible to an accessible building entrance. Temporary signage that identifies these parking spaces and access aisles as reserved for the persons with disabilities shall be installed, and the accessible route shall be clearly marked as required.
- (5) Before blocking or relocating accessible parking spaces or accessible routes of travel, the contractor must obtain written approval from the DEN ADA Compliance Officer, by submitting a completed request form, which will be provided to the Contractor by the

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Project Manager at the preconstruction meeting if it is not included as a standard form in Section 019990 of the Technical Specifications. The request shall include the location of alternative spaces and/or routes, as well as specifications for the temporary signage to be used. Work shall not proceed without this approval.

- (6) If a vehicle is parked in any accessible space that is either temporary or approved to be relocated, the Contractor shall not remove signage or take any other action that would allow the access aisle for such parking space to be blocked. Such actions must be postponed until the parking space is no longer occupied.

SC-704 RATE OF PROGRESS

Reserved.

TITLE 8 PROTECTION OF PERSONS AND PROPERTY

SC-801 SAFETY OF PERSONS

Reserved.

SC-802 PROTECTIVE DEVICES AND SAFETY PRECAUTIONS

Reserved.

SC-803 PROTECTION OF PROPERTY AND WORK IN PROGRESS

Reserved.

SC-804 PROTECTION OF MUNICIPAL, PUBLIC SERVICE OR UTILITY SYSTEMS

Reserved.

SC-805 PROTECTION OF STREET AND ROAD SYSTEM

Reserved.

SC-806 PROTECTION OF DRAINAGE WAYS

Reserved.

SC-807 PROTECTION OF THE ENVIRONMENT

Reserved.

SC-808 HAZARDOUS AND EXPLOSIVE MATERIALS OR SUBSTANCES

- .1 General Condition 808, HAZARDOUS AND EXPLOSIVE MATERIALS OR SUBSTANCES, is hereby amended to include:

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A. DISPOSAL OF NON-HAZARDOUS WASTE AT DADS

- (1) In accordance with the Landfill Agreement made between the City and Waste Management of Colorado, Inc., Contractors will be required to haul dedicated loads (non-hazardous entire loads of waste) to the Denver-Arapahoe Disposal Site (“DADS”) for disposal. DADS is located at Highway 30 and Hampden Avenue in Arapahoe County, Colorado. The City will pay all fees associated with such disposal; however, the Contractor shall be responsible for transporting the loads. Non-hazardous waste is defined as those substances and materials not defined or classified as hazardous by the Colorado Hazardous Waste Commission pursuant to C.R.S. § 25-15-207, as amended from time to time, and includes construction debris, soil and asbestos. Contractors shall not use Gun Club Road between I-70 and Mississippi Avenue as a means of access to DADS.

SC-809 ARCHEOLOGICAL AND HISTORICAL DISCOVERIES

Reserved.

TITLE 9 COMPENSATION

- .1 Title 9, COMPENSATION, is hereby amended to include:

- A. To the fullest possible extent possible within the financial payment system, the City shall be entitled to all non-Confidential records, reports, data, and other information related to the Project that is available to Contractor through the financial payment system, including but not limited to, information related to Contractor and subcontractor billings. To that end, the Contractor shall activate any available settings within the financial payment system that are necessary to grant the City access to such non-Confidential information related to the Contract and the Project. Applications for payment shall be based on the Contract Unit Prices or the approved Schedule of Values described in General Condition 903.1.

SC-901 CONSIDERATION (CITY'S PROMISE TO PAY)

Reserved.

SC-902 PAYMENT PROCEDURE

- .1 General Condition 902, PAYMENT PROCEDURE, is hereby amended to include:

- A. The party(ies) responsible for the review of all Pay Applications shall be outlined in the contract 2025 COMPENSATION MANUAL & GUIDELINES EXHIBIT.
- B. Pay Applications shall be submitted monthly or as specified in the Contract Documents. Each application must be submitted within ten (10) days after the end of the billing period. General Condition 902 specifies the payment procedure, including monthly applications.

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- C. The City reserves the right to review all Pay Applications and request additional information or documentation, as necessary. The City will approve, reject, or request modifications to the application within twenty (20) days of receipt.
- D. To ensure clarity and compliance, here is a draft of additional supporting documentation that could be included with each pay application:
- (1) Lump Sum Pay Application
- (i) Detailed Progress Report: Breakdown of work completed by Work Breakdown Structure (WBS) or similar system, showing the percentage completed for each task and overall project progress. Narrative description of work performed during the billing period, highlighting any challenges or accomplishments. Updated project schedule, reflecting actual progress and any potential delays.
 - (ii) Photographic Documentation: Date-stamped photos showing the progress of work at various stages, particularly for visually impactful elements or hidden work. Photos of stored materials demonstrating their condition and protection.
 - (iii) Inspection Reports: Copies of any relevant inspection reports, including quality control inspections, safety inspections, and third-party inspections. Documentation of any corrective actions taken in response to inspection findings.
 - (iv) Material Invoices and Delivery Receipts: Copies of invoices and delivery receipts for materials purchased and delivered to the project site, verifying quantities and costs. If applicable, material certifications or test reports ensure compliance with project specifications.
 - (v) Subcontractor Payment Documentation: Copies of subcontractor invoices and lien waivers, demonstrating payment for work performed during the billing period. Subcontractor progress reports or certifications, verifying the percentage of work completed by each subcontractor.
- (2) Cost-Plus Pay Application
- (i) Detailed Cost Breakdown: Itemized list of all costs incurred during the billing period, categorized by labor, materials, equipment, and other direct costs. Clear identification of each cost item, including description, quantity, unit cost, and total cost. Supporting documentation for each cost item, such as time sheets, invoices, receipts, and rental agreements.
 - (ii) Overhead Calculation: Transparent breakdown of overhead costs, showing the allocation method and percentage applied to direct costs. Documentation supporting the overhead calculation, such as accounting records or indirect cost rate schedules.
 - (iii) Profit Calculation: Clear explanation of the profit calculation, showing the agreed-upon fee structure and percentage applied to total costs. Documentation supporting the profit calculation, if applicable.
- (3) Guaranteed Maximum Price (GMP) Pay Application

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- (i) Cost Summary: Comparison of actual costs incurred to date against the GMP, highlighting any potential cost overruns or savings. Breakdown of costs by major work categories or phases, allowing for easy tracking and comparison to the original GMP allocation.
 - (ii) Contingency Usage Report: Detailed explanation of any contingency funds used during the billing period, including the reasons for their use and the remaining contingency balance. Supporting documentation for contingency usage, such as change orders, unforeseen condition reports, or other relevant records.
 - (iii) Potential Savings Report: If applicable, a report outlining potential cost savings opportunities identified by the Contractor, estimated savings amounts and implementation plans. This report promotes transparency and collaboration in achieving cost efficiencies within the GMP.
- (4) Unit Price Pay Application
- (i) Quantity Measurement Documentation: Detailed records of quantity measurements for each completed work item, including field notes, sketches, or survey data. Clear identification of the measurement method used and any applicable formulas or calculations. Photographic evidence of completed Work supporting the measured quantities.
 - (ii) Unit Price Verification: Documentation verifying the unit prices applied to each work item, referencing the original contract or any approved adjustments. Provide a clear explanation of any unit price adjustments made during the billing period, including the reasons for the adjustments, and supporting documentation.
- (5) Time and Materials (T&M) Pay Application
- (i) Detailed Time Sheets: Accurate and legible time sheets for each employee, showing the date, project/task, hours worked, and labor classification. Supervisor approval or certification of timesheets, ensuring accuracy and accountability.
 - (ii) Material and Equipment Invoices: Copies of invoices or receipts for all materials and equipment used, clearly indicating the project, quantities, unit costs, and total costs. Delivery receipts or other documentation verifying the delivery and use of materials and equipment on the project site.
 - (iii) Markup Calculation: Transparent breakdown of the markup applied to labor, materials, and equipment costs, showing the agreed-upon percentage and total markup amount. Documentation supporting the markup calculation, if applicable.

SC-903 SCHEDULE OF VALUES IN LUMP SUM CONTRACTS

- .1 General Condition 903, SCHEDULE OF VALUES IN LUMP SUM CONTRACTS, is hereby amended to include:

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-
- A. To ensure clarity and compliance, a draft of additional supporting documentation that could be included with each pay application shall be outlined in the contract 2025 COMPENSATION MANUAL & GUIDELINES EXHIBIT.

SC-904 UNIT PRICE CONTRACTS

Reserved.

SC-905 PROGRESS PERIOD

Reserved.

SC-906 APPLICATIONS FOR PAYMENT

- .1 In accordance with General Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:
- A. Each and every independent subcontractor's payroll information, including payment dates and payment amounts.
 - B. Starting with the second payment application, the payment applications shall be accompanied by a completed Contractors' Certification of Payment Form (CCP), listing all first-tier subcontractors and suppliers and all certified subcontractors or suppliers that are listed for participation towards any assigned M/WBE program goal. The final payment application must be accompanied by an executed Final/Partial Release and Certification of Payment Form and Certificate of Contract Release Form from the Contractor.

SC-907 RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT

- .1 General Condition 907, RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT, is hereby amended to include:
- A. PAYMENTS TO SUBCONTRACTOR AND SUBCONTRACTOR RELEASES
 - (1) The Contractor is required to use the City B2G Contract Management System to report all subcontractor payments and shall adhere to the City's Procedure for Reporting Subcontractor Payments. It is the Contractor's obligation to ensure that complete subcontractor information is entered into the B2G System prior to submission of the first Application for Payment in order to avoid any delays in payment. The Contractor shall, prior to the submission of each subsequent invoice, ensure payments to subcontractors have been entered into the B2G System, including subcontractor confirmation of the amount of payment received, for services performed during the prior billing period.

SC-908 RETAINAGE

Reserved.

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SC-909 ADDITIONAL WITHHOLDING OF PROGRESS PAYMENTS

- .1 General Condition 909, ADDITIONAL WITHHOLDING OF PROGRESS PAYMENTS, is hereby amended to add:
 - A. Disallowed Costs
 - (1) Costs or Work deemed incomplete, unsupported, or not by the Contract Documents will be disallowed. The Contractor shall not include such costs in future applications unless approved by the City.
 - B. Disallowed Quantities
 - (1) Quantities deemed unreasonable, unsupported, or not by the Contract Documents will be disallowed. The Contractor shall not include such amounts in future applications unless the City approves.

SC-910 FINAL ESTIMATE AND PAYMENT

- .1 General Condition 910, FINAL ESTIMATE AND PAYMENT, is hereby amended to include: Upon completion of the Work, the Contractor shall submit a Pay Application that includes all outstanding amounts. The final payment will be made upon the City's approval of the final application and completion of all Contract requirements. The Contractor must provide a final certification that all subcontractors and suppliers have been paid in full and that there are no outstanding claims or liens against the project.

SC-911 ACCOUNTING OF COSTS AND AUDIT

Reserved.

TITLE 10 WAGES

SC-1001 PREVAILING WAGE ORDINANCE

Reserved.

SC-1002 POSTING OF THE APPLICABLE WAGE RATES

Reserved.

SC-1003 RATE AND FREQUENCY OF WAGES PAID

Reserved.

SC-1004 REPORTING WAGES PAID

Reserved.

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SC-1005 FAILURE TO PAY PREVAILING WAGES

Reserved.

TITLE 11 CHANGES IN THE WORK, CONTRACT PRICE OR CONTRACT TIME

SC-1101 CHANGE ORDER

Reserved.

SC-1102 CITY INITIATED CHANGES

- .1 General Condition 1102.2 is hereby amended to include: replacing the phrase “Change Request” in all its occurrences in such General Condition with the phrase “Change Notice.”
- .2 General Condition 1102.3 is amended by replacing the phrase “Field Order/Change Order Directive” in all its occurrences in such General Condition with the phrase “Change Directive.”

SC-1103 CONTRACTOR CHANGE REQUEST

Reserved.

SC-1104 ADJUSTMENT TO CONTRACT AMOUNT

- .1 General Condition 1104, ADJUSTMENT TO CONTRACT AMOUNT, is hereby amended to include:
 - A. General Condition 1104.2.F: FOR BONDS, SALES TAX AND INSURANCE
 - (1) All costs associated with the Contractor’s bond requirements, sales and use tax, and insurance costs shall be reimbursed to the Contractor by the City at direct cost and without markup; the Contractor shall include all such costs in each proposal.
 - B. General Condition 1104.7:
 - (1) The “total estimated quantity” of each unit price item as stated on the bid schedules shall be the estimated quantity which is used to determine the percentage of change in such item for purposes of General Condition 1104.7.

SC-1105 TIME EXTENSIONS

Reserved.

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TITLE 12 CONTRACTOR CLAIMS FOR ADJUSTMENT AND DISPUTES

SC-1201 NOTICE OF INTENT TO CLAIM

Reserved.

SC-1202 SUBMITTAL OF CLAIMS

Reserved.

SC-1203 WAIVER OF CLAIMS

Reserved.

TITLE 13 DISPUTES

SC-1301 DISPUTES

Reserved.

TITLE 14 SITE CONDITIONS

SC-1401 DIFFERING SITE CONDITIONS

Reserved.

SC-1402 SITE INSPECTIONS AND INVESTIGATIONS

Reserved.

TITLE 15 PERFORMANCE AND PAYMENT BONDS

- .1 Title 15, PERFORMANCE AND PAYMENT BONDS, is hereby amended to include:
 - A. Requirements for separate bonds shall be furnished to the Project Manager before any Work is undertaken by the Contractor. All other terms and conditions of General Conditions 1501, 1502, and 1503 shall remain in effect. Subsequent Change Orders contemplated under the Contract shall require separate Surety Bond Change Riders for one hundred percent (100%) of the dollar value of the Contract before the Change Order is issued and any work commences.

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SC-1501 SURETY BONDS

- .1 Requirements for separate bonds in the total amount of all open Task Orders shall be furnished to the Project Manager before any Work is undertaken. All other terms and conditions of General Conditions 1501, 1502, and 1503 shall remain in effect.
- A. General Condition 1501 is hereby amended to include:
- (1) Contractor's executed Combined Performance and Payment Surety Bond is attached to the Contract as CONTRACT SURETY BOND EXHIBIT. The Contract Surety Bond shall guarantee the Contractor's faithful performance of the Contract and shall also guarantee the Contractor's payment of bills for labor and materials under the Contract.
 - (2) In the event that the cumulative dollar value of all Task Order(s) issued under the Contract exceeds the amount of the Contract Surety Bond, the Contractor shall procure, pay for, and furnish to the City Surety Bond Change Riders, in the proper form approved by the City, for an amount equal to the difference of one hundred percent (100%) of the dollar value of all outstanding Task Order(s) or Change Order and the amount of the Contract Surety Bond ("Fully-Bonded Amount"). In no event shall the cumulative dollar value of all Task Orders and Change Orders issued under the Contract be greater than the Fully-Bonded Amount. Contractor shall procure, pay for, and furnish to the City additional Combined Surety Bond Change Riders as necessary to maintain conformance with these requirements before any Task Order or Change Order is issued and any work under a Task Order or Change Order commences.
- B. Any Surety Bond Change Riders furnished by the Contractor after the execution of the Contract must be reviewed and approved by the City Attorney prior to issuance of a Task Order or Change Order and before any work commences.

SC-1502 PERFORMANCE BOND

Reserved.

SC-1503 PAYMENT BOND

Reserved.

TITLE 16 INSURANCE AND INDEMNIFICATION**SC-1601 INSURANCE**

Reserved.

SC-1602 DEFENSE AND INDEMNIFICATION

Reserved.

TITLE 17 INSPECTION AND DEFECTS

SC-1701 CONSTRUCTION INSPECTION BY THE CITY

Reserved.

SC-1702 AUTHORITY OF INSPECTORS

Reserved.

SC-1703 OBSERVABLE DEFECTS

Reserved.

SC-1704 DEFECTS - UNCOVERING WORK

Reserved.

SC-1705 LATENT DEFECTS

Reserved.

SC-1706 REMOVAL OF DEFECTIVE MATERIALS AND WORK

Reserved.

TITLE 18 WARRANTIES, GUARANTEES AND CORRECTIVE WORK

SC-1801 CONTRACTOR'S WARRANTIES, GUARANTEES AND CORRECTION OF WORK

Reserved.

SC-1802 PERFORMANCE DURING WARRANTY PERIOD

Reserved.

TITLE 19 SUBSTANTIAL COMPLETION OF THE WORK

SC-1901 CONTRACTOR'S NOTICE OF SUBSTANTIAL COMPLETION

Reserved.

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SC-1902 INSPECTION AND PUNCH LIST

Reserved.

SC-1903 CERTIFICATE OF SUBSTANTIAL COMPLETION

Reserved.

SC-1904 RIGHT OF EARLY OCCUPANCY OR USE

Reserved.

TITLE 20 FINAL COMPLETION AND ACCEPTANCE OF WORK

SC-2001 CLEAN-UP UPON COMPLETION

Reserved.

SC-2002 FINAL COMPLETION AND ACCEPTANCE OF THE WORK

Reserved.

SC-2003 FINAL SETTLEMENT

Reserved.

TITLE 21 SUSPENSION OF WORK

SC-2101 SUSPENSION OF WORK

Reserved.

SC-2102 SUSPENSION OF THE WORK FOR THE CITY’S CONVENIENCE

Reserved.

**SC-2103 SUSPENSION BECAUSE OF ORDER OF CITY, STATE OR FEDERAL
COURT OR AGENCY**

Reserved.

**SC-2104 SUSPENSION RESULTING FROM CONTRACTOR’S FAILURE TO
PERFORM**

Reserved.

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TITLE 22 CITY'S RIGHT TO TERMINATE THE CONTRACT

SC-2201 TERMINATION OF CONTRACT FOR CAUSE

Reserved.

SC-2202 TERMINATION OF CONTRACT FOR CONVENIENCE OF THE CITY

Reserved.

TITLE 23 MISCELLANEOUS PROVISIONS

SC-2301 PARTIES TO THE CONTRACT

Reserved.

SC-2302 FEDERAL AID PROVISIONS

Reserved.

SC-2303 NO WAIVER OF RIGHTS

Reserved.

SC-2304 NO THIRD PARTY BENEFICIARY

Reserved.

SC-2305 GOVERNING LAW; VENUE

Reserved.

SC-2306 ABBREVIATIONS

Reserved.

SC-2307 STATUTE OF LIMITATIONS IN C.R.S. § 13-80-102(1)(H)

Reserved.

TITLE 24 DEN PROVISIONS

SC-2401 VEHICLE PERMITTING

- .1 Vehicle access on the Airport Operation Area (“AOA”) is controlled by and operated by DEN Airport Operations and DEN Airport Security. Contractor is required to obtain a vehicle access

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permit for any vehicle entering inside this area. Contractor is responsible for complying with DEN Airport Operations and DEN Airport Security requirements. Only direct construction support vehicles and/or equipment will be allowed in the Contractor's work areas or sites.

SC-2402 PROHIBITION ON USE OF CCA-TREATED WOOD PRODUCTS

- .1 The use of any wood products pressure-treated with chromated copper arsenate (CCA) is prohibited. Examples of CCA-treated wood products include wood used in play structures, decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.

SC-2403 WAIVER OF: PART 8 OF ARTICLE 20 OF TITLE 13, COLORADO REVISED STATUTES.

- .1 The Contractor specifically waives all the provisions of Part 8 of Article 20 of Title 13, Colorado Revised Statutes regarding defects in the Work under this Construction Contract.

SC-2404 DISCOUNTS, REBATES AND REFUNDS

- .1 Cash discounts obtained on payments made by the Contractor shall accrue to the City if (1) before making the payment, the Contractor included them in an Application for Payment and received payment therefore from the City, or (2) the City has deposited funds with the Contractor with which to make payments; otherwise, cash discounts shall accrue to the Contractor. Trade discounts, rebates, refunds and amounts received from sales of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they can be secured. Amounts which accrue to the City herein shall be credited to the City as a deduction from the Cost of the Work.

SC-2405 SECURITY AND PERSONNEL ACCESS

- .1 The Contractor shall conduct all its activities at DEN in compliance with DEN's Airport Security Rules and Regulations (Part 20), which are administered by DEN's Airport Operations Division. The Contractor shall obtain the proper Airport ID badges for its employees, subcontractors and suppliers and any applicable vehicle permits.
- .2 The security status of the Airport is subject to change without notice. These Special Conditions are applicable to the current security status of the Airport. Should the security status of the Airport change at any time during the term of this Contract, a written notice shall be issued to the Contractor detailing all applicable security modifications from the Airport's current security status. The Contractor shall take immediate steps to comply with those security modifications as directed in the written notice.
- .3 If these security modifications involve any additional project cost, the Contractor shall submit a Contractor Change Request in accordance with the General Conditions for the additional cost. The Contractor Change Request shall outline in specific detail the effects of the security

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modifications on the Contractor's performance of the Contract and shall provide a detailed cost breakdown for each item for which the Contractor is requesting reimbursement.

- .4 The Contractor shall return all access keys issued by the City to all areas of the Airport. If the Contractor fails to return any such key or keys at contract completion or termination, or upon demand by the City, the Contractor shall be liable to the City for related costs, including labor costs for employees, costs incurred in re-coring doors and any other work which is required to prevent compromise of Airport security. To collect such costs, the City may withhold funds in such amount from any amounts due and payable to the Contractor under this Contract.
- .5 If construction breaches any Airport perimeter security boundary or requires continued access to restricted access rooms or areas, the Contractor shall post authorized contract security personnel to maintain required security controls. The Contractor's Task Order Proposal per the TASK ORDER AND EXECUTION PROCESS EXHIBIT shall include the cost of providing security services to maintain control and supervision of any and all Airport perimeter security boundary breaches and for the duration of work activities until the Airport perimeter security boundaries are reestablished.
- .6 THE IMPORTANCE OF THIS SPECIAL CONDITION CANNOT BE OVER-EMPHASIZED. SEVERE FINANCIAL PENALTIES INCLUDING CONTRACT TERMINATION COULD RESULT IF AIRPORT PERIMETER SECURITY REQUIREMENTS ARE NOT STRICTLY FOLLOWED. THE CONTRACTOR SHALL PROVIDE ONE HUNDRED PERCENT (100%) CONTROL AND SUPERVISION TO PREVENT UNSUPERVISED/UNSECURED BREACHES IN THE AIRPORT'S PERIMETER SECURITY. AT NO TIME, DURING WORK AND NON-WORK HOURS, SHALL BREACHES IN THE AIRPORT'S SECURITY PERIMETER BE UNSUPERVISED/UNSECURED.
- .7 For off-hours of construction, the Contractor may choose to erect a temporary wall to close all perimeter openings. The wall construction shall be of sufficient materials and strength to prevent access to the Airport's Sterile/Restricted Areas. The Contractor shall submit for review and approval, the details and materials for the temporary closure of security perimeter breaches.
- .8 The Contractor shall provide contract security guard services to maintain supervision of these openings. The security services must provide coverage to allow for lunch breaks, comfort breaks and etc. The security services must be obtained from the following contract security guard company:

Covenant Aviation Security
1112 W. Boughton Road
Suite 355
Bolingbrook, IL 60440

The local general contact number for Covenant Aviation Security is: 720-222-4774.
- .9 All security guards provided for this Project must have a DEN SIDA Badge.

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- .10 The company providing contract security guard services at DEN may change at any time. The Contractor shall maintain a contractual relationship with whichever company is providing contract security guard services for the City at DEN.
- .11 The Contractor shall continue to provide security of these areas until such time that the breaches in the DEN's security perimeter have been permanently secured.
- .12 The Contractor shall submit a written security plan for approval to DEN's Director of Airport Security prior to the start of construction on any work where a breach of the perimeter security boundaries is required.

TITLE 25 FEDERAL PROVISIONS

Reserved.

END OF EXHIBIT

EXHIBIT F

City and County of Denver



D E N V E R
THE MILE HIGH CITY

**DEPARTMENT OF AVIATION
DEPARTMENT OF PUBLIC WORKS**

**STANDARD SPECIFICATIONS FOR
CONSTRUCTION
GENERAL CONTRACT CONDITIONS**

2011 Edition

Statement

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Attachment 6, Performance and Payment Bond

XI. ATTACHMENT 6, PERFORMANCE AND PAYMENT BOND

Bond No. 7901234320

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Sky Blue Builders, LLC, a corporation organized under the laws of the State of CO, hereinafter referred to as the "Contractor" and Nationwide Mutual Insurance*, a corporation organized under the laws of the State of OH, and authorized to transact business in the State of Colorado, hereinafter referred to as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "CITY", in the penal sum of Five Million One Hundred Fifty Six Thousand One Hundred Sixty Five and NO/100 Dollars (\$5,156,165.00), lawful money of the United States of America, for the payment of which sum the Contractor and Surety bind themselves and their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

*Company

WHEREAS, the above Contractor has, as of the date of execution listed on the contract signature page, entered into a written contract with the City for furnishing all labor, materials, equipment, tools, superintendence, and other facilities and accessories for the construction of 202475736, Level 5 Dome and Ramps, Denver International Airport, in accordance with the Technical Specifications, Contract Drawings and all other Contract Documents therefor which are incorporated herein by reference and made a part hereof, and are herein referred to as the Contract.

NOW, THEREFORE, the condition of this performance bond is such that if the Contractor:

1. Promptly and faithfully observes, abides by, and performs each and every covenant, condition, and part of said Contract, including, but not limited to, its warranty provisions, in the time and manner prescribed in the Contract, and
2. Pays the City all losses, damages (liquidated or actual, including, but not limited to, damages caused by delays in the performance of the Contract), expenses, costs and attorneys' fees, that the City sustains resulting from any breach or default by the Contractor under the Contract, then this bond is void; otherwise, it shall remain in full force and effect.

IN ADDITION, if said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, or any other supplies used or consumed by said Contractor or its subcontractors in its performance of the work contracted to be done or fails to pay any person who supplies rental machinery, tools, or equipment, all amounts due as the result of the use of such machinery, tools, or equipment in the prosecution of the work, the Surety shall pay the same in an amount not exceeding the amount of this obligation, together with interest as provided by law.

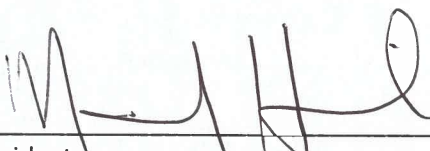
PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates, and agrees that any and all changes in the Contract or compliance or noncompliance with the formalities in the Contract for making such changes shall not affect the Surety's obligations under this bond and the Surety hereby waives notice of any such changes.

(End of Page)

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this 12
day of May, 2025

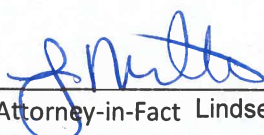
Sky Blue Builders, LLC

CONTRACTOR

By: 
President

Nationwide Mutual Insurance Company

SURETY

By: 
Attorney-in-Fact Lindsey Minutillo

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond.)



1705 17th Street, Suite 100
Denver, CO 80202
(303) 534-4567

Exhibit H

Page 53

Attachment 6, Performance and Payment Bond

PAYMENT BOND

Bond No. 7901234320

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Sky Blue Builders, LLC
_____, a corporation organized under the laws of the State of CO
hereinafter referred to as the "Contractor" and Nationwide Mutual Insurance Company
_____, a corporation organized under the laws of the State of OH
_____, and authorized to transact business in the State of Colorado, hereinafter referred to as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "CITY", in the penal sum of Five Million One Hundred Fifty Six Thousand One Hundred Sixty Five and NO/100 Dollars (\$5,156,165.00), lawful money of the United States of America, for the payment of which sum the Contractor and Surety bind themselves and their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above Contractor has entered into a written contract with the City for furnishing all labor, materials, tools, superintendence, and other facilities and accessories for the construction of 202475736. Level 5 Domes and Ramps, Denver International Airport, in accordance with the Technical Specifications, Contract Drawings and all other Contract Documents therefor which are incorporated herein by reference and made a part hereof, and are herein referred to as the Contract.

NOW, THEREFORE, the condition of this payment bond obligation is such that if the Contractor shall at all times promptly make payments of all amounts lawfully due to all persons supplying or furnishing it or its subcontractors with labor and materials, rental machinery, tools, or equipment, used or performed in the prosecution of work provided for in the above Contract and shall indemnify and save harmless the City to the extent of any and all payments in connection with the carrying out of such Contract which the City may be required to make under the law, then this obligation shall be null and void, otherwise, it shall remain in full force and effect;

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates, and agrees that any and all changes in the Contract, or compliance or noncompliance with the formalities in the Contract for making such changes shall not affect the Surety's obligations under this bond and the Surety hereby waives notice of any such changes.

[END OF PAGE]

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this 12
day of May, 2025

Sky Blue Builders, LLC

CONTRACTOR

By: _____
President

Nationwide Mutual Insurance Company
SURETY

By: _____
Attorney-in-Fact Lindsey Minutillo

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond.)



1705 17th Street, Suite 100
Denver, CO 80202
(303) 534-4567

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS THAT:

Nationwide Mutual Insurance Company, an Ohio corporation

hereinafter referred to severally as the "Company" and collectively as "the Companies" does hereby make, constitute and appoint:

AMY COONTS; ASHLEA MCCAUGHEY; BRANDI J TETLEY; DANIELLE WARING; DAVID DONDLINGER; JENNIFER L CLAMPERT; LINDSEY MINUTILLO; MICHAEL LISCHER JR; NICOLE L MCCOLLAM;

each in their individual capacity, its true and lawful attorney-in-fact, with full power and authority to sign, seal, and execute on its behalf any and all bonds and undertakings, and other obligatory instruments of similar nature, in penalties not exceeding the sum of

UNLIMITED

and to bind the Company thereby, as fully and to the same extent as if such instruments were signed by the duly authorized officers of the Company; and all acts of said Attorney pursuant to the authority given are hereby ratified and confirmed.

This power of attorney is made and executed pursuant to and by authority of the following resolution duly adopted by the board of directors of the Company:

"RESOLVED, that the president, or any vice president be, and each hereby is, authorized and empowered to appoint attorneys-in-fact of the Company, and to authorize them to execute and deliver on behalf of the Company any and all bonds, forms, applications, memorandums, undertakings, recognizances, transfers, contracts of indemnity, policies, contracts guaranteeing the fidelity of persons holding positions of public or private trust, and other writings obligatory in nature that the business of the Company may require; and to modify or revoke, with or without cause, any such appointment or authority; provided, however, that the authority granted hereby shall in no way limit the authority of other duly authorized agents to sign and countersign any of said documents on behalf of the Company."

"RESOLVED FURTHER, that such attorneys-in-fact shall have full power and authority to execute and deliver any and all such documents and to bind the Company subject to the terms and limitations of the power of attorney issued to them, and to affix the seal of the Company thereto; provided, however, that said seal shall not be necessary for the validity of any such documents."

This power of attorney is signed and sealed under and by the following bylaws duly adopted by the board of directors of the Company.

Execution of Instruments. Any vice president, any assistant secretary or any assistant treasurer shall have the power and authority to sign or attest all approved documents, instruments, contracts, or other papers in connection with the operation of the business of the company in addition to the chairman of the board, the chief executive officer, president, treasurer or secretary; provided, however, the signature of any of them may be printed, engraved, or stamped on any approved document, contract, instrument, or other papers of the Company.

IN WITNESS WHEREOF, the Company has caused this instrument to be sealed and duly attested by the signature of its officer the 20th day of August, 2021.

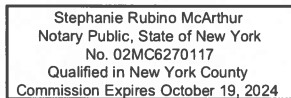


Antonio C. Albanese, **Vice President** of Nationwide Mutual Insurance Company

ACKNOWLEDGMENT

STATE OF NEW YORK COUNTY OF NEW YORK: ss

On this 20th day of August, 2021, before me came the above-named officer for the Company aforesaid, to me personally known to be the officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposes and says, that he is the officer of the Company aforesaid, that the seal affixed hereto is the corporate seal of said Company, and the said corporate seal and his signature were duly affixed and subscribed to said instrument by the authority and direction of said Company.

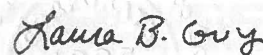



Notary Public
My Commission Expires
October 19, 2024

CERTIFICATE

I, Laura B. Guy, Assistant Secretary of the Company, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney issued by the Company; that the resolution included therein is a true and correct transcript from the minutes of the meetings of the boards of directors and the same has not been revoked or amended in any manner; that said Antonio C. Albanese was on the date of the execution of the foregoing power of attorney the duly elected officer of the Company, and the corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority of said board of directors; and the foregoing power of attorney is still in full force and effect.

IN WITNESS WHEREOF, I have hereunto subscribed my name as Assistant Secretary, and affixed the corporate seal of said Company this ____ day of



Assistant Secretary



Exhibit I

PROJECT MANUAL

PARKING LEVEL 5 DOME AND RAMP IMPROVEMENT

DEN Contract Number: 202475736

VOLUME 1

Issue for
Construction

10.10.2024

City and County of Denver
Department of Aviation

Philip A. Washington, CEO

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TECHNICAL SPECIFICATIONS

**DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736**

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DIVISION 01 – GENERAL REQUIREMENTS
SECTION 011100 - SUMMARY OF WORK**

**DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736**

**SECTION 011100
SUMMARY OF WORK**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY AND DESCRIPTION

- A. The Work specified in this contract consists of furnishing all management, supervision, labor, materials, tools, equipment, services, testing and incidentals for the construction of the Work indicated in the contract documents including lump sum items and unit price items.
- B. The Work in this Contract may affect operations at DEN. The Contractor shall bid, plan and execute the Work to minimize disruption of operations and inconvenience to the public.
- C. Change Notice:
 - 1. The Contractor will be required to submit a proposal for each Change Notice
 - 2. The Contractor shall submit a proposal for the complete scope of the Work within the specified duration identified by the Notice. Where there is no time requirement identified by the notice documents, the Contractor shall submit a proposal within 20 days of receiving the notice or as allowed in Title 11 - Changes in the Work, Contract Price, or Contract Time of the General Contract Conditions, 2011 Edition.
 - 3. The proposal could contain both competitive bid and estimated costs and shall adhere to the requirements of Title 11 of the General Contract Conditions.
 - 4. The Contractor shall not proceed on any change notice work until a change order is issued.
- D. Change Directives:
 - 1. The DEN Project Manager may issue Change Directive(s) for a Scope of Work. The Contractor shall keep all Time and Material record for any Change Directive(s) issued until a final settlement for the task is settled and finalized in a Change Order.
 - 2. The Contractor shall keep records and approvals for all Time and Material impacts of a Change Directive until a final settlement is reached and fully executed by the DEN Project Manager.
 - 3. The Contractor may invoice for a Change Directive in accordance with Title 11 of the General Contract Conditions, 2011 Edition.
- E. Lump Sum: For Contracts assigned as GMP the Contractor shall follow the Special Conditions issued for the Contract.
- F. This Project will be administered using the current Project Management Information System (PMIS). The application will be supplied by DEN at no cost to the Contractor. DEN will provide PMIS training for up to two (2) of the contractor's personnel.
- G. The Contractor shall participate in a preconstruction coordination meeting and update the

TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 011100 - SUMMARY OF WORK

DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736

existing BIM Project Execution Plan or prepare a BIM Project Execution Plan if one does not exist based upon the DEN BIM Project Execution Plan (BPXP) template included as provided by the DEN Digital Facilities and Infrastructure (DFI) group and the coordination meeting instructions.

- H. DEN utilizes several programs as part of the Asset Management System. Keeping accurate as-built record and operation and maintenance data are essential in the integrity and the validity of the airport operation. The Contractor is required to make every effort to keep the airport data informed, updated and accurate in the format required by DEN Project Manager:
 - 1. The Contractor shall provide and implement BIM Project Execution Plan based on the DEN BIM Project Execution Plan. The Contractor shall employ or contract a consultant to provide all the requirements to produce the Project model in the latest edition of the **BIM360**
 - 2. The Contractor shall comply with all the requirements of DEN BIM Project Execution Plan and provide the data to DEN to produce the complete record of the BIM model of the Project
- I. Inspection Requirements:
 - 1. Special Inspection and Testing required by the building official or the Engineer of Record in the Contract Documents or in the Statement of Special Inspections will be performed by DEN contracted Agencies.
 - 2. Contractor shall subcontract Qualified Material Testing Agency(s) to perform all necessary Quality Control, processing control and any additional Testing required by the Contract Documents.
 - 3. DEN Quality Assurance Manager may audit all material tests performed by the Contractor Quality Control at any time. Testing and Inspections for structural elements (reinforced concrete, steel, masonry caissons, fire protection, precast and post tension concrete) not identified as special inspection will be performed by the Contractor Quality Control Program and Contractor Material Testing Agency and audited and confirmed by DEN Quality Assurance Manager. DEN will perform 100% visual inspection on all weldments. DEN will perform Quality Assurance testing at a frequency of approximately 10% of the Quality Control test and inspection frequencies. The testing frequencies by DEN may escalate to higher percentages and the Contractor will be responsible for all costs associated with failing tests of the same pay item elements. The Contractor may not hire the DEN contracted or testing agency in any capacity on this Project.
- J. DEN Quality Assurance will perform all quality assurance pull and adhesion tests on all airfield joint sealants. Contractor shall perform all quality control tests for the same items.
- K. DEN Quality Assurance is required to submit a letter indicating that all Work performed on the project complies with all applicable codes. The Contractor shall make sure that all required test frequencies and all deficiencies has been corrected to comply with all applicable codes and standards and the requirements of the Contract Documents.

1.03 WORK BY OTHERS AND FUTURE WORK

- A. Refer to Title 7 – Cooperation, Coordination and Rate of Progress of the General Contract Conditions, 2011 Edition

1.04 SITE CONDITIONS

- A. Refer to Title 14 – Site Conditions of the General Contract Conditions, 2011 Edition

**TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 011100 - SUMMARY OF WORK**

**DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736**

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTRACTOR'S DUTIES

- A. Refer to Title 3 – Contractor Performance and Services of the General Contract Conditions, 2011 Edition
- B. Execute the Work as specified and in a timely manner. Submit a schedule of Work that will be performed at times other than during the eight-hour working day of Monday through Friday, daylight hours. Submit this schedule five (5) working days prior to the beginning of Work to the DEN Project Manager for review and acceptance. Approval to work at night may be obtained after Contractor presents a written program outlining special precautions to be taken to control the extraordinary hazards presented by night work. That program shall include, but not be limited to, supplementary lighting of work areas, availability of medical facilities, security precautions, and noise limitations.

3.02 COORDINATION

- A. Coordinate execution of the Work with those public utilities, governmental bodies, private utilities and other contractors performing work on and adjacent to the worksites. Eliminate or minimize delays in the Work and conflicts with those utilities, bodies, and contractors. Schedule governmental, private utility and public utility work that relies upon survey points, lines and grades established by the Contractor to occur immediately after those points, lines and grades have been established. Confirm coordination measures for each individual case with the DEN Project Manager in writing.
- B. In the coordination effort of work by others, the Contractor shall obtain and refer to equipment locations and other layouts, as available, to avoid interface problems.
- C. The City reserves the right to permit access to the site of the Work for the performance of work by other contractors and persons at such times that the City deems proper. The exercise of such reserved right shall in no way or to any extent relieve the Contractor from liability for loss and damage to the Work due to or resulting from its operations or from responsibility for complete execution of the Contract. The Contractor shall cooperate with other contractors and persons in all matters requiring common effort.

3.03 CONTRACTOR USE OF WORK SITE

- A. Confine work site operations to areas permitted by law, ordinances, permits, and the Contract.
- B. Consider the safety of the Work and that of the people and property on and adjacent to the work site when determining amount, location, movement, and use of materials and equipment on work site.
- C. Do not load work site with equipment and products that would interfere with the Work. Only equipment, tools, or materials required for this Work may be stored at the work site.
- D. Protect products, equipment, and materials stored on work site.
- E. Relocate stored products, equipment, and materials that interfere with operations of City,

**TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 011100 - SUMMARY OF WORK**

**DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736**

government bodies, public, and private utilities, and other contractors.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 011100

SECTION 011400

WORK SEQUENCE AND CONSTRAINTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 OTHER WORK

- A. Other concurrent construction contracts with which the Contractor must interface are described elsewhere in the Contract Documents. Refer to Section 013210 "Schedule" and the Special Conditions for specific work constraints and milestones.

1.03 WORK SEQUENCE

- A. The work sequence shall comply with Phasing, Sequencing, and Milestones as indicated in the Contract Documents and in accordance with the approved Construction Schedule developed by the Contractor. The schedule shall comply with requirements indicated in the Special Conditions and Section 011400 "Work Sequence and Constraints". The Construction Schedule is described in Section 013210 "Schedule".

1.04 WORK CONSTRAINTS

- A. Site Constraints:
 1. Access to the Project shall be generally as indicated in the Contract Documents. Access shall be organized and planned by the Contractor to ensure no disruption of airline or DEN operations.
 2. Access to work sites will be strictly monitored and must comply with DEN Airport Operations and FAA Regulations. The Contractor shall provide monitoring and escorts as required by DEN Operations in the area of the Work.
 3. The Contractor's staging area will be as indicated in the Construction Documents.
 4. Contractor employee parking will not be allowed within the existing revenue control system. Parking facilities will be as indicated in the Construction Documents.
 5. The Contractor shall use the haul routes specified in the Construction Documents.
 6. If required, the Contractor shall provide a bus and driver to transport the Contractor's employees between the designated employee parking area and the work sites. No separate payment will be made for this bus and driver. The cost shall be included in the bid item "Mobilization". The bus driver shall be provided at all times when Contractor employees are working on the Project.
- B. System Interruptions:
 1. DEN is a 24/7/365 facility. Construction activity that requires any system shutdown must be coordinated with the project manager and DEN AIM MCC.
 2. The Shutdown cannot proceed unless all approver groups have approved the request. If any of the groups rejects the request, you may not proceed with the Shutdown. If a Shutdown is determined to be an emergency due to pending health issues or the risk of additional damage, this process may be bypassed. If the Shutdown is an

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emergency, proceed with the shutdown without the approvals. Approvals must be obtained as follows

- a. All other Shutdowns must be submitted at least five (5) business days prior to the shutdown start date.
- b. All Shutdown Requests must be submitted using the Shutdown Request form, which can be accessed via the Home page of the DEN intranet.

C. Airfield Operations at Denver International Airport:

1. Full airport and aircraft operations are underway adjacent to this Project. Contractors are required to obtain a Contractor Participant Manual from the Security Manager and must follow the guidelines in the manual. Copies of the Contractor section of the manual are available for review at the Denver International Airport Access Services Office.
 - a. If any Work contains requirements for Work activities or access through or in the restricted area, reference Section 011420 "Security Requirements & Sensitive Security Information (SSI)" for requirements.
 - b. If not in a restricted area, the Contractor personnel still must be badged; reference Section 011420 "Security Requirements & Sensitive Security Information (SSI)".

D. Conduct of persons using the Denver Municipal Airport system:

1. Contractor activities shall comply with Airport Operations and Regulation 130 "TRAFFIC" and Regulation 20 "CONDUCT OF PERSONS USING THE DENVER MUNICIPAL AIRPORT SYSTEM" shall be followed at all times. These regulations are available from Airport Operations at Denver International Airport.

E. Operational safety on airports during construction:

1. All Work shall be accomplished in accordance with FAA Advisory Circular AC150/5370-2C, "Operational Safety on Airports during Construction", FAR Part 139 and FAR Part 107 except as herein modified.

F. Welding Equipment, Procedures and Constraints:

1. Natural gas-powered portable welders or inverter single- and three-phase electric portable welders are the only acceptable welding equipment to be used inside the building basement or tunnel areas. Acceptability of equipment other than the equipment noted above shall be at the sole discretion of the DEN Project Manager.
2. Welding activities inside buildings require submittal of a System Interruption Request (See paragraph "System Interruptions" above). Prior to welding in any area, the Contractor shall locate smoke detectors and shall request interruption of the fire alarm system. Subsequent to the interruption of the fire alarm system and prior to welding activities, the Contractor shall cover and protect smoke detectors until work is complete. Prior to expiration of each interruption of the system, the Contractor shall uncover the smoke detectors.
3. Electrical Service: The Contractor shall be responsible for verifying with the DEN Project Manager or representatives locations acceptable for accessing electrical power for welders and other electrical equipment feeders. The Contractor shall be responsible for all work and equipment required to install temporary or permanent electrical modifications for construction power and lighting.
 - a. Temporary Hook-up: In addition to the requirements of paragraph "Temporary Power and Lighting for Construction" below, comply with the following:
 - 1) Provide wiring sized to accommodate full load of welding equipment, accounting for voltage drop.
 - 2) Provide appropriate NEMA twist-lock or ANSI receptacle for welder hook-up.

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- 3) 480V, 3 phase, 3 pole, 4-wire twist lock ground line.
 - 4) NEMA L16-20 or ANSI C73.87.
 - b. The Contractor may not begin operation of the equipment prior to request for inspection by DEN representatives and acceptance of the installation.
 - c. Permanent installation of electrical branch circuiting for welding equipment shall be made in accordance with all Division 26 Specification Sections
 - 4. Welding Practices: All standard safe welding practices must be followed, including but not limited to the following:
 - a. Flash protection for surrounding areas.
 - b. Contractor fire extinguisher in area.
 - c. One person in each welding area solely designated as fire watch for each welder.
 - d. Protect all equipment, cable trays and contents, etc., in area.
 - e. Use fire blankets and other appropriate materials to confine sparks and molten metal from the welding, cutting, and/or grinding activities.
 - f. All welders shall have been qualified through welding tests in accordance with applicable welding code, such as but not limited to AWS, ASME, API, within one year prior to welding taking place. Evidence of qualification shall be through Welding Performance Qualification Records (WPQR).
 - g. All welder qualifications test shall be or shall have been administered and witnessed by an Independent Testing Agency (ITA), AWS Certified Welding Inspector (CWI).
 - h. If recertification of welders is required, delay costs and retesting costs shall be borne by the Contractor.
 - 5. Grounding: Review with DEN representative's area of work prior to beginning work to ensure ground procedures do not induce undesirable charges in steel building system or other systems. This review should take place subsequent to the pre-work meeting. Do not ground to adjacent building systems, baggage system, hangers, or devices that support mechanical or electrical equipment.
- G. Temporary Power and Lighting for Construction:
- 1. The Contractor shall be responsible for all work and equipment required to install temporary or permanent electrical modifications for construction power and lighting.
 - 2. The Contractor shall be responsible for all work and equipment required to install temporary or permanent electrical modifications for construction power and lighting.
 - a. Comply with all requirements of NEC Article 590.
 - b. Flexible cords used for temporary power shall be listed in accordance with NEC Article 400, and rated for 'extra-hard' usage.
 - c. Provide an equipment grounding conductor with all temporary power circuits.
 - d. All temporary power distribution devices and equipment shall be listed and rated for the application.
 - e. Provide ground fault protection for personnel.
 - f. Temporary lighting fixtures shall be protected from physical damage.
- H. Cleaning Equipment and Spoils:
- 1. Discharge of water, liquids, or chemicals into a building sanitary sewer system or storm drainage systems is prohibited. The Contractor shall comply with all Federal, State, and Local requirements for disposal of chemicals and equipment wash water. The Contractor shall maintain and service all equipment in work areas and collect all wash water, spoils and water from excavations in containers for discharge or removal off site.

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1. Electric carts require permitting. The Contractor shall provide at least one (1) electric cart for Contractor use during the work in the tunnel and basements of the buildings. Only electric or CNG powered trucks are allowed in the tunnel and basements of the buildings. Only electric or CNG trucks may be used and shall not be parked overnight or for long terms within the tunnel or basements. All vehicles require permitting. Permits may be acquired at the DEN Airport Security Office.

J. Radio and Cell Phone Use:

1. The Contractor shall have wireless communications in place prior to initiation of work in the tunnel or basements by use of cell phone and/or radio. Radio and cell phone coverage in the tunnels and basements varies in signal strength throughout the campus. An RF Application must be submitted for the Radio equipment intended for use at least 14 days prior to intended use. Include the following radio information:
 - a. Make
 - b. Model
 - c. Frequency
 - d. Effective Radiated Power (ERP)
2. Contractors must receive an approval letter from the RF Systems Manager prior to use of the radio equipment on the DEN campus.

K. Keys:

1. The Contractor shall be required to contact DEN Maintenance Control to procure keys for access to all rooms having locks in order to gain access. Keys may be checked out at the beginning of each work shift by the Contractor and shall be returned to DEN Maintenance Control at the end of each work shift

1.05 COORDINATION

- A. The Contractor will designate a contact person for coordination with the DEN Project Manager and airline tenants. The contact person shall have the authority to make decisions for the Contractor firm and shall have binding signatory power for changes in work. The contact person shall be on site at all times during work activity.
- B. No additional costs shall be considered for coordination activities throughout this project. The Contractor shall include in the Contractor's bid costs for coordination of all activities.

PART 2 - PRODUCTS (NOT USED)**PART 3 - EXECUTION****3.01 EQUIPMENT**

- A. Equipment: CNG-powered equipment is allowed within the buildings. No other fossil fuel equipment may be used within the buildings unless the equipment is directly vented to the building exterior.
- B. Electric: Electric powered equipment is acceptable in the Work area.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 011400

SECTION 011430

VEHICLE AND EQUIPMENT PERMITTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Contractor shall comply with the Airport Security Program. Vehicle permits are required for all vehicles operating in the Secured Area. The DEN vehicle permit is required even if the vehicles are operating in the Secured Area but limited to above grade, outdoor activity. Vehicles or machinery operating within buildings shall be required to acquire a DEN emissions permit as well as a DEN vehicle permit.
- B. Special emphasis should be paid to Denver Municipal Airport System Rules and Regulations Part 20 – Airport Security Rules and Regulations and Part 130 – Operating Vehicles In The Secured Area" and Part 35 – Operations Infraction Accountability Program". The Denver Municipal Airport System Rules and Regulations can be found on the flydenver.com website.
1. All Work shall be accomplished in accordance with the most current version of FAA Advisory Circular (AC) 150/5370, "Operational Safety on Airports during Construction", 49 Code of Federal Regulations (CFR) Part 1542 and 14 CFR Part 139 except as modified herein.
 2. All Work shall be accomplished in accordance with the most current TSA Security Directives applicable to DEN, except as modified herein.
 3. Contractor may access runways, taxiways, and aprons only as necessary and only after establishing radio communications with Airport Operations through the DEN Inspector. No personnel or equipment will be allowed on the runways until radio contact has been made with Airport Operations and permission given.
 4. Access to the Movement Area will be limited in order to allow the maximum efficient movement of aircraft. As part of this limitation, the Contractor may be required to only use these areas late at night when there is less aircraft traffic
 5. Once admitted into the Secured Area, the Contractor shall proceed directly to the work location by way of the approved haul route. At no time shall a Contractor or any of its personnel enter onto a taxiway, runway, or ramp without proper clearance from the Airport Operations Manager or Assistant Airport Operations Manager. Contractors or individuals violating these requirements for driving in the Secured Area may be subject to fines, suspension, or permanent revocation of their driver authorization and/or Airport ID badge privileges.
 6. The Transportation Security Administration (TSA) requires that all operating airports be secured from the general public and has the authority to issue citations for violations of these requirements. It is the responsibility of the Airport to ensure all fences and gates are secure. If a Contractor's operations necessitate the frequent use of a particular gate, the Contractor shall place guards at the gate. Refer to 011420 – Security Requirements and SSI for details regarding the placement of guards.
- C. General Safety Regulations When in Aircraft Operations Areas May Include the Following:

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1. At all times, the Contractor shall coordinate its Work with the requirements of the Airport site and operations. All Work, movement of personnel, materials, supplies and equipment in areas used by aircraft shall be subject to regulations and restrictions established by the City. The Contractor shall take special precautions and be fully responsible for the prevention of damage to materials and equipment in the areas affected by the jet blast of taxiing aircraft. No work shall proceed until necessary protective devices are placed as required to protect the public, airport operations, property, and personnel from the hazards of the Work. The Contractor shall proceed with the Contractor's Work, including temporary work and storage of tools, machinery, and materials, to cause no interference with or hazards to the operation of the Airport.
 2. Landings, takeoffs, and taxiing shall take precedence over all Contractors' operations. In the event that the Contractor is notified that an emergency landing or a takeoff is imminent, the Contractor shall stop all operations immediately, regardless of the sequence of events in progress and shall immediately evacuate the Contractor's personnel and equipment from the runway and taxiway areas as directed.
 3. The Contractor shall remove its personnel and equipment to the distance specified below for the prevailing conditions:
 - a. For emergencies, the Contractor shall move all personnel and equipment as directed by Airport Operations or the DEN Project Manager.
 - b. At the end of a work day in areas where aircraft are operating, all equipment shall be moved to a location that is not less than 750 lineal feet measured from the near edge of the runway, taxiway or ramp area or to the location designated by the City.
 4. If the Contractor is asked to leave part of its work site to allow aircraft operation, the Contractor shall clean the area to allow safe aircraft movement. Cleaning may include sweeping the area to prevent damage to aircraft.
- D. Vehicle Permitting:
1. Refer to the Denver Municipal Airport System Rules and Regulations Part 20 – Airport Security Rules and Regulations and Part 130 – Operating Vehicles In The Secured Area" and Part 35 – Operations Infraction Accountability Program" for information regarding vehicle permitting. These Denver Municipal Airport System Rules and Regulations can be found on the flydenver.com website.
 2. Contractor should contact DEN Project Manager to submit Airfield Access requests for all vehicles and equipment not previously permitted. This includes vehicles and equipment for subcontractors. For additional information regarding permitting, the Contractor must contact DEN Security.
- E. Equipment Permitting
1. Fossil fuel powered equipment to be used in the interior of buildings and/or in basement/tunnel areas shall require inspection by DEN Maintenance and the Denver Fire Department.
 - a. Only CNG fossil fuel powered equipment may be used; gasoline powered, propane powered, or diesel-powered equipment will not be acceptable unless identified and operated per Section 011400 "Work Sequence and Constraints".

1.03 SUBMITTALS

- A. Refer to Section 03300 "Submittal Procedures" for submittal procedures
- B. Submit a copy of each vehicle permit and/or equipment and vehicle emissions permit a maximum of fourteen (14) days after receipt of permit.

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PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PERMITS

- A. Vehicle permits shall not be issued prior to Notice to Proceed. The Contractor may, at the Contractor's own risk, submit required information prior to Notice to Proceed to the following:
 - 1. Airfield Access request: DEN Project Manager.
 - 2. Vehicle permit: DEN Airport Security.
 - 3. Equipment and vehicle emissions permit. DEN Project Manager or DEN Maintenance Group.

3.02 SCHEDULE

- A. The Contractor shall allow in the Contractor's schedule five (5) days for DEN review of submittals for permits. Testing of equipment and review by the Denver Fire Department shall be scheduled by the Contractor. By submitting information for permits, the Contractor certifies that equipment and vehicles comply with Contract documents and with all City, state and federal regulations including but not limited to emissions, licensing and safety requirements.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 011430

SECTION 011810
UTILITIES INTERFACE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Various utilities are located within the limits of work in the Project area. The owners of these utilities may require that the Contractor work around their existing facilities until alterations, relocation, or abandonment have been completed. All known existing utilities are shown; however, the Contractor shall verify and satisfy itself that there are no other existing utilities that may not be shown.
- B. The owners of known utilities within the project area include, but are not limited to:
1. Century Link Telephone
 2. DEN Telephone
 3. Xcel Energy Natural Gas
 4. Xcel Energy Elec. Services
 5. DEN Storm Water
 6. DEN Sanitary Sewer
 7. DEN Deicing Waste
 8. Denver Water Department
 9. DEN Deicing Supply operated by Inland Technologies
 10. Fuel System (ASI)
 11. Premise Wiring System- DEN Business Technologies
 12. FAA Duct Bank
 13. Oil/Gas Wells
 14. DEN Electrical Department
 15. Fire Alarm System
 16. Paging System
- C. The location and establishment of each construction vehicle crossing shall be at sites mutually agreed upon in writing by the Contractor and the owner of the utility.
- D. At the locations where the Contractor needs to establish a construction vehicle crossing over any of the operating pipelines, the furnishing and placing of a crossing shall be by the Contractor. The crossing shall allow the normal operation of the pipeline at all times unless specifically approved by DEN or the owner of the pipeline. Each crossing shall be adequately marked and signed for safe passage of vehicles over the crossing. Construction vehicles shall not be allowed to cross over operating pipelines at any place other than an established crossing.

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- E. These utility locations are based upon information provided by the utility companies or previous construction contractors that were the basis for determining utility coordinates. The Contractor is responsible for confirming the accuracy of the provided coordinates with the utility owner.
- F. The Contractor shall control the Contractor's operations in order to avoid creating any obstacles for the utility owner's access for maintaining or operating their equipment.

1.03 REFERENCE DOCUMENTS

- A. Section 312323.33 "Flowable Backfill (Controlled Low-Strength Material)"

1.04 REGULATORY REQUIREMENTS

- A. The Contractor shall obtain and pay for all utility company permits, fees, and licenses necessary for the execution of this work. The Contractor shall give all notices and shall comply with all laws, ordinances, rules, and regulations of all authorities having jurisdiction.

1.05 QUALITY CONTROL

- A. When the Contractor performs any operations that will affect a utility owner, the Contractor shall give timely notice to the utility owner and the DEN Project Manager so that the Contractor's operations may be observed by the utility owner or their representative.

1.06 WORK INCLUDED

- A. The Work of this Section includes furnishing all materials, equipment, and labor necessary to provide utility crossings as required and as specified herein and subject to approval by the associated utility owner.
- B. North American Resources has a line passing through airport property. The Contractor shall contact the utility prior to beginning earthwork operations to ascertain any special requirements or conditions required to maintain and protect this service during construction activities.
- C. FAA Underground Duct lines: The FAA has duct lines passing under the site. The Contractor shall contact the FAA prior to beginning earthwork operations to ascertain any special requirements or conditions required to maintain this service during construction activities.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Suitable cover material shall be in accordance with Colorado Department of Transportation Standard Specifications. Wet, soft, or frozen material, asphalt chunks, or other deleterious substances shall not be used for cover.
- B. Aggregate for road base material shall consist of clean, sound and durable particles of crushed stone, crushed gravel or crushed slag, shall be free from coatings of clay, silt and organic matter, and shall contain no clay balls. Material shall conform to the State of Colorado Standard Specifications for Road and Bridge Construction Class 6 aggregate base unless otherwise specified.
- C. The materials for the load distribution system on top of the cover shall conform to the

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specification of the American Institute of Steel Construction, the American Institute of Timber Construction, or the American Concrete Institute, as applicable, depending upon the system agreed upon between the Contractor and utility owner.

- D. Materials for the sleeving of the pipelines shall be purchased by the utility owner at the Contractor's expense.
- E. Comply with utility backfill requirements for the use of flowable backfill in Section 312323.33 "Flowable Backfill (Controlled Low-Strength Material)" and Division 26 and Division 33 requirements.

PART 3 - EXECUTION

3.01 NOTIFICATION OF UTILITIES FOR LOCATING AND POTHOLING

- A. The Contractor shall verify the location of all utilities prior to any operations including physically uncovering the utility to verify location as required by the utility owner.
- B. The Contractor shall notify the Utility Notification Center of Colorado at (303) 534-6700 or 811, as a minimum for location of utilities.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 011810

SECTION 012510

SUBSTITUTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. All material and equipment substitutions must comply with Title 4, Article 406: Substitution of Materials and Equipment in the General Contract Conditions, 2011 Edition.
- B. The Work specified in this Section consists of submitting form CM-09, Request for Substitution for the approval of a different material, equipment, or process than is described in the Contract Documents.
- C. If the substitution changes to the Scope of Work, Maximum Contract Cost, cost of the Work (if less than the Maximum Contract Cost), or Contract time, a Change Order is required.
- D. As-built drawings and specifications must include all substitutions even if a Change Order is not issued.

1.03 REFERENCE DOCUMENTS

- A. Form CM-09, Request for Substitution
- B. Section 013300 "Submittal Procedures"
- C. Section 013325 "Shop and Working Drawings, Product Data and Samples"

1.04 QUALITY CONTROL

- A. The substitution shall provide as a minimum, the same performance as specified.

1.05 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. A completed Form CM-09 shall be submitted at least 60 days prior to when an order needs to be placed or a method needs to be changed.
- C. The submittal shall contain all the data required to be submitted for acceptance of the originally specified item or process, including, as appropriate:
 - 1. Detailed product data sheets for the specified items and the substitution.
 - 2. Samples and shop drawings of the substitution.

PART 2 - PRODUCTS (NOT USED)

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PART 3 - EXECUTION**3.01 SUBSTITUTION PROCESS**

- A. Provide the information as required on Form CM-09.

3.02 SUBSTITUTION REQUEST

- A. The formal Request for Substitution will be evaluated by the DEN Project Manager and the Designer of Record based on the following criteria:
1. Compatibility with the rest of the project.
 2. Reliability, ease of use and maintenance.
 3. Both initial and long term cost.
 4. Schedule impact.
 5. The willingness of the Contractor to share equally in any cost savings.
 6. The ability of the item or process to meet all applicable governing regulations, rules, and laws along with funding agency requirements.
 7. The cost of evaluating the substitution.
- B. Based upon the above evaluation, the Senior Director of AIM Development will make a final determination of what is in the best interest of the City and either approve, disapprove or approve as noted the requested substitution.

3.03 CONDITIONS

- A. As a condition for submitting a Request for Substitution, the Contractor waives all rights to claim for extra costs or changes in the costs, schedule, Contract time or Scope of Work, other than those outlined in the request and approved by the Senior Director of AIM Development. The Contractor, by submitting a Request for Substitution, also accepts all liability for cost and scheduling impact on other contractors or the City due to the substitution.
- B. Included with the Request for Substitution shall be the following statement:
1. "The substitution being submitted is equal to or superior in all respects to the Contract-required item or process. All differences between the substitution and the Contract-required item or process are described in this request along with all required information, cost, and scheduling data."
- C. The statement shall be signed and dated by the Contractor's Superintendent.
- D. Replacement of Substitution Found to be Not Equal: The Contractor shall be responsible for all aspects and conditions of the substitution that are not clearly identified in the substitution submittal, and shall be liable for the appearance, function, performance or other aspects of the substitution that are found not to be equal to the originally specified item.
1. The Contractor shall incur all labor and costs associated with replacement of any substitution that is found to be not equal to the originally specified item or process and rejected by the DEN Project Manager.
 2. The replacement of any rejected substitution shall either be with the originally specified item or process, or a substitution approved by the DEN Project Manager.

PART 4 - MEASUREMENT

ISSUED FOR CONSTRUCTION**STUDIOTROPE DESIGN COLLECTIVE****Revision No. 10.10.2024**

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 012510

SECTION 012600

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions other Division 01 Specification Sections, and Related Requirements apply to this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CHANGE MANAGEMENT PROCEDURES

- A. General Process Requirements
1. Refer to Project Management for Software Requirements Section 013100 Project Management and Coordination.
 2. Refer to the City and County of Denver Standard Specifications for Construction General Contract Conditions Title 11 requirements
 3. Process
 - a. Change Mechanism Types
 - 1) Change Directive
 - a) DEN directed change/scope changes that are necessary for safety or operations – scope addition is not optional. DEN provides a budget via CD, and the contractor responds via CDR with costs (either actual or negotiated). Once the CDR is approved, a change order may be issued for the difference between the CD and the CDR.
 - 2) Change Notice
 - a) When to use: DEN directed changes/scope for which the contractor can propose costs to do the work. A CN does not mean the work will take place; project impacts, including cost and schedule, must be negotiated and agreed upon before the work takes place. Once the change notice is negotiated, a change order may be issued.
 - 3) Contractor Change Request
 - a) Adverse or changed conditions encountered by the contractor that were not the result of DEN direction; RFI responses that differ from spec that may result in additional cost or schedule. Once the CCR is approved, a change order may be created.
 - b. Non-Standard Contract Changes
 - 1) Suspension
 - a) Suspensions should be recorded through a change notice. The contractor may respond with any associated costs.
 - 2) Termination
 - a) Terminations should be recorded through a change notice. The contractor may respond with any associated costs.
 - 3) Minor Contract Language Change
 - a) Changes to contract language should be recorded through a change notice. In addition to the normal Unifier approval process, Airport Legal Services (ALS) should also review and approve of changes in the

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contract. Common situations where this may occur:

- (1) Project Milestone Changes
 - (2) Submittal Requirements
 - (3) Insurance Requirements
 - (4) Other
 - (5) Other
- 4) Specification Change
- a) Changes to spec should be recorded through an RFI if possible. If not, then a CN may be issued for spec changes. In addition to the normal Unifier approval process, the spec owner/SME should review and approve of the change.
- 5) Major Contract Language Change
- a) Major Contract Language Changes require the involvement of Airport Legal Services (ALS) and may require additional approval, up to and including City Council. Situations where this may be necessary would include
 - (1) Removal of special conditions, exhibits, or attachments to the contract
 - (2) Increase in contract capacity over a designated value
 - (3) Any other contract change that has not been covered by this section.
- c. Change orders
- 1) Change Directives, Change Notices and Contractor Change Requests will be executed and incorporated into a contract via a Change order only.

B. Submission Requirements

1. Refer to Section 013100 Project Management and Coordination.

3.02 TIMELINE

- A. The Contract General Conditions (Standard Specifications for Construction General Contract Conditions) Title 11 provides timelines and deadlines for approval. The contractor shall refer to this section of the contract for specific requirements, in addition to any special conditions within the contract.
- B. The deadlines specified in Title 11 should be applied to the initial submission package for a change. Any requests for revision, including negotiations, will be subject to the following deadlines.
1. If a contractor is asked to revise a final proposal, the revision will be completed and submitted through the designated system within seven (7) calendar days.
 2. DEN will have fourteen (14) calendar days to review any revised proposal and provide a recommendation back to the contractor. This includes any reviews of the proposal on behalf of DEN, including third parties, subject matter experts, and Project Manager reviews.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

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- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 012600

SECTION 012910

SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions other Division 01 Specification Sections, and Related Requirements apply to this Section.

1.02 RELATED REQUIREMENTS

- A. The Work specified in this Section consists of preparing and submitting the Schedule of Values ("Schedule") as referenced in the General Conditions. Use the Project Specifications Table of Contents or Schedule of Prices and Quantities (Bid Tabs), if applicable, as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section. The Work also includes the preparing and submitting of updated copies of the Schedule if the Schedule is affected by change orders.
- B. A Schedule of Stored Material is a detailed cost breakdown for permanent materials that will be temporarily stored prior to their being installed and for which the Contractor seeks partial payments. The Schedule of Stored Material will be incorporated as a part of the Schedule of Values.
- C. Within 14 calendar days of issuance of the Notice to Proceed (NTP), the Contractor shall submit the Schedule of Values including the Schedule of Stored Material if applicable. The Schedule of Values and Schedule of Stored Material used to prepare the work/cost breakdown for the Schedule will be used for the Contractor's billings.
- D. D.Any Contract allowances shall be included in the Schedule. Expenditure of allowances shall be done using the Allowance Authorization form. Use of this form does not increase or decrease the Contract value.

1.03 RELATED DOCUMENTS

- A. Title 9 – Compensation of the General Contract Conditions, 2011 Edition
- B. Section 013300 "Submittal Procedures"
- C. Section 013325 "Shop and Working Drawings, Product Data and Samples".
- D. Form CM-89, Schedule of Values
- E. Form CM-91, Schedule of Values for Unit Price Contracts

1.04 SUBMITTALS

- A. The Schedule of Values shall be formally approved by the DEN Project Manager.
- B. The Schedule shall identify each item of work. Work items in the Schedule shall represent all Work and shall be referenced with the Technical Specifications section numbers, specification subparagraph, specification section title and the bid item number used for the Schedule of Prices and Quantities when applicable.

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- C. Upon request by the City, the Contractor shall support values given with the data that will substantiate the correctness of the values.
- D. The Schedule will be utilized only as a basis for review of the Contractor's application for progress payment.

1.05 REVIEW AND RESUBMITTAL

- A. If review by the DEN Project Manager indicates that changes to the Schedule are required, the Contractor shall revise and resubmit the Schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PREPARING SCHEDULE OF VALUES

- A. Provide a breakdown of the Contract Price in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
- B. Breakdown of the items used in the Schedule shall include the following item costs. Ensure each item is complete:
 - 1. Delivered cost of product with applicable taxes paid.
 - 2. Total installation cost with overhead and profit.
 - 3. Breakdown costs of each lump sum item with a list of products and major operations for which the Contractor seeks to receive progress payments to recover the Contractor's costs for that bid item.
 - 4. Each unit price item as listed in the bid Schedule of Prices and Quantities shall list products and major operations for which the Contractor seeks to receive progress payments for that bid item.

3.02 PREPARING SCHEDULE OF STORED MATERIAL

- A. The Contractor shall submit with the Schedule an indication of whether products will be stored on or off the work site. The Schedule of Stored Material shall show all quantities and types of products that will be stored.
- B. Material allowances consist of only the net cost of the product, the cost of delivery and unloading at the storage site, the cost of applicable sales taxes, and all discounts.
- C. In no case will the cost paid for a permanent material be greater than 90 percent of the Contract price for the Work in which they are included.

3.03 PAYMENT FOR STORED MATERIALS

- A. Only materials that are described in the specifications and on the drawings will be considered permanent materials. Permanent materials are materials that will be left in the Work after the Contract is completed.
- B. Nothing in these specifications shall be interpreted as requiring the City to pay for stored materials. The DEN Project Manager shall decide on a case-by-case basis whether stored materials shall be paid for. No payment will be made for stored materials that have not been submitted and accepted.

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- C. The Contractor must, at all times, store permanent materials in accordance with manufacturer's recommendations. Any material not properly stored will not be paid for. Amounts will be deducted from payments for any stored permanent material previously paid for and subsequently found to be improperly stored or not present, based upon a physical inventory of stored permanent material.
- D. Only the neat line quantity of material needed for the finished product may be paid for.
- E. All requests for stored permanent material payment must be accompanied by paid invoices clearly showing the quantity of permanent material, the type of permanent material and discounts or rebates and the net amount paid to the supplier along with a certificate stating that the permanent material is free of any liens or judgments preventing its use by the City.
- F. If the permanent material is stored outside the Denver area the Contractor must pay for the City representative's transportation and lodging to see the stored material as needed. Acceptable lodgings must, as a minimum, have a Mobil Travel Guide Rating Criteria® rating of Two-Star or the American Automobile Association Lodging Listing Requirements & Diamond Rating Guidelines® rating of Two Diamonds. The minimum transportation shall be by regularly scheduled commercial air carrier at coach rates. The DEN Project Manager will determine if an overnight stay is required.
- G. All permanent material stored off site, for which payment is being requested, must be insured and stored in bonded, insured warehouses. The Contractor shall provide proof of insurance for all material stored off site, and specific address and storage conditions of storage location.
- H. Any permanent material on which payment is requested must be in such a form that it cannot be used on work other than this Contract, or stored in a manner acceptable to the DEN Project Manager to ensure that the permanent material cannot be used on work other than this Contract.

3.04 ALLOWANCE AUTHORIZATION AND PAYMENT

- A. Contractor shall request written approval for expenditure of any Contract allowances PRIOR TO performing the Work involved. List work to be performed and estimated cost in the requesting correspondence.
- B. Original copies of all invoices and receipts must be submitted with the Allowance Authorization as part of the request for payment.
- C. Using the format provided by the City, the Contractor's request for payment of all Contract allowances shall be included in the Schedule of Values.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

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- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 012910

SECTION 012976

PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions other Division 01 Specification Sections, and Related Requirements apply to this Section.

1.02 SUMMARY

- A. Section includes requirements for the following:
 - 1. Section 011100 "Summary of Work"
 - 2. Section 013100 "Project Management and Coordination"
 - 3. Section 013300 "Submittal Procedures"

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. General Process Requirements
 - 1. Payment application need to be submitted as per the Agreement.
 - 2. Comply with the PM Guide for invoicing.
- B. Progress Payment Package
 - 1. Subcontractor Payment Verification
 - a. The Contractor shall submit with the Schedule, a report of all work performed by subcontracted parties of all tiers, and current payment status.
 - b. The report shall include the following minimum fields:
 - 1) Project name
 - 2) Project number
 - 3) Date
 - 4) Name of Contractor
 - 5) Name of all subcontractors, of all tiers, as listed in the bid as well as any subsequently submitted CM-02 forms, including the following information for each subcontracted firm:
 - a) Total value of work performed
 - b) Total amount paid to date
 - c) Date of last payment
 - d) Balance due
 - e) Payment Terms
 - f) Remaining balance to be paid
 - g) Planned payment date
 - c. Failure to provide this information may result in withholding of progress payments, pursuant to Article 909.1 of the General Contract Conditions
- C. Submission Requirements

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1. Refer to the PM Guide for invoicing.

3.02 TIMELINE

A. Prompt Pay Requirements

1. Refer to the Prompt Pay Ordinance

B. Penalties for Late Payments

1. A Key Performance Indicator (KPI) is a way of measuring specific performance of the Contractor for which a target is stated in the KPI Schedule contained in Exhibit / Table (X). The KPIs for this section relate to the Contractor's performance with submitting documentation related to invoice submissions and proof of subcontractor / vendor payment, see Exhibit / Table (X).
2. An assessment of the Contractor's performance against the KPIs is made monthly at the time of the Contractor's invoice submittal and request for payment. Reporting of performance and assessments are carried out in accordance with the provisions of this Article.
3. As used in this clause and specification, the Moderated Amount represents the amount of Contractor's fee contained in each payment application.
4. If the Contractor achieves a target stated for a Key Performance Indicator in respect of any assessment interval, they are entitled to be paid the allocated weighting set out in the KPI Schedule of the Moderated Amount, in respect of that monthly assessment interval ("Due Moderated Amount").
5. The Moderated Amount and each Due Moderated Amount in respect of the first two assessment intervals following the Contract Date shall be paid as submitted and reviewed in order to allow the Contractor to become acquainted with the invoice submission process.
6. Where the Contractor does not become entitled to be paid Due Moderated Amounts which in total equal the full amount of the Moderated Amount in respect of the relevant assessment interval, the Contractor still has the opportunity to earn the amount of the Moderated Amount to which they did not become entitled in respect of the relevant assessment interval (the "Shortfall"). The Contractor is entitled to be paid the proportion of the Shortfall relating to a particular target in respect of an assessment interval for a KPI if and when the Contractor achieves that target for the three consecutive assessment intervals immediately following the assessment interval in which the Shortfall occurred. If, a particular KPI ceases to be measured and there is fewer than three assessment intervals between a Shortfall arising as a result of the failure to meet the target for that Key Performance Indicator and the date on which it ceases to be measured, then the Contractor loses the opportunity to earn back the Shortfall.
7. If the Contractor's obligation to perform is terminated for any reason, the Contractor is only entitled to be paid any amounts which had become due under the foregoing provisions of this clause prior to the date of termination.
8. If there ceases to be five Key Performance Indicators, the percentage weighting in respect of each KPI shall be adjusted at the discretion of DEN.
9. DEN may during each third assessment interval review the KPI regime described in this clause and in the KPI Schedule and, following such review, DEN may with the Contractor's agreement (not to be unreasonably withheld) amend any aspect of the KPI regime described in this clause and in the KPI Schedule. Should the Contractor withhold its agreement unreasonably it shall lose the opportunity to earn back any Shortfall.

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PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 012976

SECTION 013100

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations and coordination with other stakeholders and adjacent Contractors on the Project including,
 - 1. Subcontractor's Acceptance Certification and Subcontractors List.
 - 2. General Coordination Procedures.
 - 3. Contract Administration Procedures.
 - 4. Current Project Management Information Systems (PMIS)
 - 5. Coordination drawings.
 - 6. Current DEN Asset Management Systems
 - 7. Requests for Information (RFIs).
- B. Related Requirements:
 - 1. Section 011100, " Summary of Work" for a description of the division of work among separate contracts and responsibility for coordination activities not in this Section.
 - 2. Section 011400 "Work Sequence and Constraints" for shutdown requests and coordinating with airport operational activities.
 - 3. Section 011420 "Security Requirements and Sensitive Security Information (SSI)".
 - 4. Section 013210 "Schedule" for preparing and submitting Contractor's Construction Schedule.
 - 5. Section 013223 "Construction Layout, As-built and Quantity Surveys" for coordinating, survey activities and survey related record documents.
 - 6. Section 013300 "Submittal Procedures. "
 - 7. Section 013325 "Shop and Working Drawings, Product Data and Samples".
 - 8. Section 017720 "Contract Closeout" for coordinating closeout of the Contract.
 - 9. Section 017419 "Construction Waste Management and Recycling".
 - 10. DEN Building Information Modeling (BIM) Design Standards Manual (DSM)

1.03 DEFINITIONS

- A. RFI: Request from the DEN Contractor DEN Project Manager seeking information required by or clarifications of the Contract Documents.

1.04 SUBMITTALS - SUBCONTRACTORS ACCEPTANCE CERTIFICATION AND SUBCONTRACTORS LIST

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<p>A. To comply with Section 502.2 in the General Contract Conditions, 2011 Edition, the Contractor must complete and submit form CM-02 Subcontractor Acceptance Certification for each Subcontractor working on the project. Additionally, the Contractor must prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.</p> <p>B. Provide emergency contacts list to the DEN Project Manager prior to any site activities. List must contain project name, number, location, company name and address, name and title of emergency contacts in order and time and assigned responsibilities. Keep list current and accurate at all times. Include any specific security arrangements or special projects requirements.</p> <p>C. Within two (2) days of Notice to Proceed, the Contractor shall submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identifying individuals and their duties and responsibilities listing addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Providing names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.</p> <p>1. Post copies of the accepted list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.</p>		
<p>1.05 GENERAL COORDINATION PROCEDURES</p> <p>A. Coordination with other Contractors:</p> <p>1. For details on coordinating with other Contractors, refer to Article 701 Cooperation with Other Work Forces, Article 702 Coordination of the Work, and Article 703 Coordination of Public Contact in the General Contract Conditions, 2011 Edition.</p> <p>B. Minimum cooperation requirements with other contractors include the following, unless directed by the DEN Project Manager in writing:</p> <p>1. Regular meetings, minimum weekly.</p> <p>2. Construction schedule coordination.</p> <p>3. Staging area and access planning (to include employee shuttle routes).</p> <p>4. Deliveries.</p> <p>5. Traffic control.</p> <p>6. When and where required or specified, the Contractor shall develop appropriate coordination drawings for use by interfacing adjacent parties using the Denver International Airport site.</p> <p>C. The following is a list that includes, but is not limited to, all of the contractors that will be working in the area of the project limits:</p> <p>D. Coordination with DEN entities shall include but is not limited to the following:</p> <p>1. Coordinate with Owner Contracted Communication Contractor.</p> <p>2. Coordinate with Utility Companies for utilities that are single sole source.</p> <p>3. Coordinate with Airport Security and DEN Maintenance for all security related services.</p> <p>4. Coordinate with DEN Life Safety Team for all issues related to fire alarm, fire protection systems in addition to compliance with all regulatory agencies.</p> <p>5. Coordinate all shutdowns and system interruptions in accordance with section 011400</p>		
ISSUED FOR CONSTRUCTION		Revision No. 10.10.2024

"Work Sequence and Constraints."

1.06 CONTRACT ADMINISTRATION PROCEDURES

- A. This Project will be administered in part using the current Project Management Information System (PMIS). Any processes necessary to properly administer the Contract and not included in the list below shall be addressed as acceptable to the DEN Project Manager. DEN Project Manager may modify the list below in serialized correspondence without constituting a change to the Contract. Administrative tools and processes shall not in any form waive any contractual or legal requirements of the law or the Contract. The Contractor shall attend all coordination meetings with the DEN Project Manager and the DEN Project Control Administrators to arrange for staff training, and technical support to facilitate the execution of electronic data management and control.
- B. Project Management Information Systems (PMIS): Oracle Unifier Enterprise Project Portfolio Manager (EPPM), or the Oracle Primavera P6.
- C. All submittals, RFIs, Pay Applications, Correspondence, change requests, and pricing proposals and settlement agreements shall be recorded and submitted using the current PMIS:
 - 1. The Contractor shall follow the specified PMIS Access Request Procedure and adhere to all user license conditions.
 - 2. The Contractor shall sign the Information Technology Agreement (ITA) to comply with the DEN computer system security requirements and any contractual obligation to the software and service providers for the current PMIS software
 - 3. DEN will train the Contractor's staff on the use of the PMIS.
 - 4. At a minimum, the Contractor shall provide computer hardware and software to meet the following requirements and to run the following programs, as required for the project:
 - a. Internet connectivity that provides the necessary high-speed connection to perform all activities indicated in this Contract.
 - b. Internet Explorer version 8 or higher.
 - c. Based on the project, a specific Java JRE application may be required, which can be downloaded from the Internet. If needed, the revision and update number will be provided at NTP.
 - d. Other files capability pre-approved by the DEN Project Manager or as required by the DEN BIM Execution Plan
 - e. Most current version of Revit, as per DEN requirements.

1.07 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, BIM Design Standards Manual and BIM Project Execution Plan (BPXP), and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity. Coordination drawings will be the result of a Contractor driven Spatial Coordination effort as spelled out in the BPXP.
 - 1. Field verify all existing dimensions and any as-built dimensions, whether built by the Contractor or others, necessary to produce accurate coordination and working drawings.
 - 2. Content: Project-specific information, drawn accurately to a scale large enough to

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indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

- a. Use applicable Models/Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
- b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
- c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
- d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
- e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
- f. Indicate required installation sequences.
- g. Indicate dimensions shown on the Models/Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to DEN Project Manager indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Using software as in the BPXP, the Contractor shall coordinate these systems per floor or zone per BPXP, and as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.

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- c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor control center locations.
 - d. Location of pull boxes and junction boxes dimensioned from column centerlines.
 - 8. Fire-Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
- C. Review: DEN Project Manager will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If DEN Project Manager determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, DEN Project Manager will so inform Contractor, who shall make changes as directed and resubmit.
- D. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
 - 1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings, unless approved otherwise by DEN Project Manager.
 - 2. File Preparation Format: Provided in the Project BIM Execution Plan operating in Microsoft Windows operating system.
 - 3. File Submittal Format: Submit or post coordination drawing files as required in the Project BIM Execution Plan.
 - 4. The submittal must be logged in accordance with the submittal procedure
 - 5. For Fire Protection system; provide shop drawing and design calculations as approved by the building department. Submit as-built drawings in format as outline in BPXP.
 - 6. For all projects, receiving official variance from the BIM requirements not utilizing BIM, coordination drawings must be submitted in acceptable digital format shall be in an industry recognized 3D AutoCAD model.
 - 7. BIM File Incorporation: DEN Project Manager will incorporate Contractor's coordination drawing files into Building Information Model for Revit as established for Project.
 - a. Contractor shall lead three-dimensional component conflict analysis as part of preparation of coordination drawings. Resolve component conflicts prior to submittal. Indicate where conflict resolution requires modification of design requirements by Architect or other sub-consultants.
 - 8. DEN Project Manager will furnish Contractor one (1) set of digital data files of Models and/or Drawings for use in preparing coordination digital data files.
 - a. The Design consultants and Contractors and Sub Contractors acknowledge and represent the following Right Of Reliance regarding Electronic Models and/or Drawing deliverables:
 - 1) Models may be transferred for allowing the recipients to develop derivative models to develop the means and methods by which to construct the project.
 - 2) It must be clear that each party be able to rely on the fact that the model furnished by others “match the 2D Contract Documents or shop drawings in their equivalent state of development”

1.08 COORDINATION WITH DEN ASSET MANAGEMENT SYSTEM:

- A. The full intent is to produce comprehensive record documents integrating existing data in the form of digital files and models, reconciled to actual field conditions, modifications or

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additions facilities or components of existing facilities according to new Contract Documents, and to produce record documents that could be incorporated into DEN asset management system.

- B. Utilize the BIM to link all necessary data content to the model and follow the BPXP as collaboratively modified by the Contractor, Designer, and DEN BIM Administrators and approved by DEN Project Manager
- C. Provide the following information through the execution of the Contract for all elements and element types that DEN has designated as assets. The information shall include but is not limited to:
 - 1. Project title, number, project manager contact information, contractor and subcontractor contact information
 - 2. Pertaining shop drawings
 - 3. Operational Manuals and safety information, MSDS and cut sheets, and any pertinent technical information.
 - 4. Details of all components' maintenance procedures and requirements.
 - 5. Details of all applicable warranties including but not limited to; warranty providers, manufacturers information, warranty start and finish dates, contacts , bonding company name, consent of surety,
 - 6. Equipment location (by room number and location description or grid location format acceptable to DEN Project Manager, for civil projects), equipment make, model, serial number, and other asset information as outlined in the DEN BIM DSM
 - 7. List of all spare parts including but not limited to; equipment make and model, location, submittal number or link, and suppliers reordering information
 - 8. Commissioning results, acceptance criteria, test reports, and Tab reports

1.09 REQUESTS FOR INFORMATION (RFIS)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI through the PMIS
 - 1. DEN Project Manager will distribute the RFIs to the proper entities.
 - 2. DEN Project Manager will coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's Work or work of subcontractors
- B. DEN Project Manager has the right to reject RFIs or those that do not contain proper information and required data to properly evaluate the request and respond in a timely manner.
- C. RFIs: Use PMIS to generate RFIs.
 - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
 - 2. Attachments include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- D. For projects not using Unifier to create the RFI, the RFI must include a detailed, legible description of item needing information or interpretation and the following:
 - 1. Project name.

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2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of DOR and DEN Project Manager.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
- E. DEN Project Manager will review each RFI, determine action required, and respond. RFIs received by DEN Project Manager after 1:00 p.m. will be considered as received the following working day. Direct responses by any entity other than DEN Project Manager shall not be binding to the City and County of Denver. E-mails, and verbal conversations must be followed by an official RFI or proper contractual vehicle before it is considered for any additional compensation or time impact to the project terms and conditions.
1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of DEN Project Manager's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 2. DEN Project Manager will facilitate a response to the contractor within fourteen (14) calendar days of receipt, regardless of whether the RFI is an original or re-submission, either through the PMIS or, if the PMIS is not used, via email. This response time will include any reviews from a third party, including DOR/EOR, Architects, Commissioning Agents, or other SMEs.
 3. DEN Project Manager's response may include a request for additional information or revision and resubmittal of the RFI. Contractor shall clearly reference the previous RFI on the new submittal record.
 4. DEN Project Manager's action on RFIs that may result in a change to the Contract Time, or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Title 11 - Changes In the Work, Contract Price, or Contract Time in the General Contract Conditions, 2011 Edition as amended by Special Conditions.
 5. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify DEN Project Manager in writing within five (5) days of receipt of the RFI response or the time required by Title 11 - Changes In the Work, Contract Price, or Contract Time in the General Contract Conditions, 2011 Edition

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F. RFI Log: For projects not utilizing the PMIS application, prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. The log shall include but not limited to the following data:

1. Project name.
2. Name and address of Contractor.
3. Name and address of DEN Project Manager.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date DEN Project Manager's response was received.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013100

SECTION 013119

PROJECT MEETINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section requires the Contractor's Project Manager, Superintendent, and Quality Control representative to attend meetings scheduled by the DEN Project Manager for the collection and dissemination of information related to the subject Contract.
- B. The DEN Project Manager will prepare the minutes of each meeting and distribute them to each of the participants.

1.03 REFERENCE DOCUMENTS

- A. Form CM-01, Preconstruction Meeting Agenda
- B. Form CM-62, Construction Meeting Agenda/Minutes

1.04 OTHER MEETINGS

- A. The Contractor shall attend all other project related meetings as directed by the DEN Project Manager.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. A Preconstruction Meeting will be scheduled by the DEN Project Manager after the Contract has been signed by all parties. The purpose of this meeting is to introduce the City's Representatives to their counterparts in the Contractor's organization and to establish lines of communication between these representatives and outline some Contract requirements. The Contractor's key personnel shall attend this meeting.
- B. The DEN Project Manager will distribute a notice of this meeting, along with an agenda of the subjects to be addressed. Refer to form CM-01, Preconstruction Meeting Agenda.
- C. The DEN Project Manager will explain and discuss the responsibilities and authorities of the City, the Designer of Record, and the DEN Project Manager's organization.
- D. The Contractor shall introduce the Contractor's key personnel, subcontractors, and representatives and briefly describe each person's responsibilities.

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- E. The Contractor shall prepare a presentation with the items outlined in the CM-01, Preconstruction Meeting Agenda, at a minimum.
- F. Explanations provided by the DEN Project Manager will not amend, supersede, or alter the terms or meaning of any Contract document, and the Contractor shall not claim reliance on such explanations as a defense to any breach or failure by the Contractor to perform as specified in the Contract.

3.02 CONSTRUCTION PROGRESS MEETINGS

- A. Progress meetings will be scheduled weekly and more often as necessary by the DEN Project Manager to promote the competent and timely execution of the Contract.
- B. The meetings will be held at the work site or at a location selected by the DEN Project Manager. Meetings will be chaired by the DEN Project Manager or the DEN Project Manager's representative.
- C. The Contractor's key personnel shall attend unless otherwise agreed by the DEN Project Manager.
- D. At a minimum, and as directed by the DEN Project Manager, the items detailed in CM-62, Construction Meeting Agenda/Minutes shall be addressed at each meeting. The items addressed in the meeting do not waive notification or submittal requirements as required elsewhere in the Contract.
- E. The DEN Project Manager will be responsible for publishing minutes of the meetings. Refer to form CM-62, Construction Agenda/Meeting Minutes.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013119

SECTION 013210 – SCHEDULE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section describes the procedures and requirements for scheduling and documenting the progress of the project:
 - 1. Design Schedules
 - 2. Preliminary Construction Schedule
 - 3. Initial Project Construction Schedule (IPS)
 - 4. Monthly Progress Schedule update
 - 5. As-built Schedule
 - 6. Special reports:
 - a. Weather impacts and mitigations
 - b. Unforeseen Conditions and mitigations
 - c. Recovery Schedule and alternatives

1.03 REFERENCE DOCUMENTS

- A. Article 1105 - Time Extensions in the General Contract Conditions, 2011 Edition.
- B. Section 011100 "Summary of Work"
- C. Section 011420 "Work Sequence and Constraints".
- D. Section 012910 "Schedule of Values".
- E. Section 013119 "Project Meetings"
- F. Section 013300 "Submittal Procedures"

1.04 SUBMITTALS

- A. Submit for City acceptance the following in accordance with Section 01 33 00 – Submittal Procedures:
 - 1. Project Scheduler Qualifications
 - 2. Design Schedules
 - 3. Preliminary Project Construction Schedule
 - 4. Initial Project Construction Schedule
 - 5. Monthly Progress Update Schedules
 - 6. Time Impact Analysis, when necessary

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7. As-built Schedule

B. Scheduler/Scheduling Consultant Qualifications:

1. A professional with a minimum of two (2) years of experience with scheduling design and construction projects similar in size and scope of work as this project using Oracle Primavera P6 software.
2. The scheduler shall have a comprehensive knowledge of Critical Path Method (CPM) scheduling principles and application.
3. The scheduler shall produce reports and diagrams within 24 hours of the DEN Project Manager's request and perform tasks, including but not limited to, the following:
 - a. Create, maintain and update the project design and construction schedule, including but not limited to baseline schedule management, cost and resource loading, time impact analysis, and schedule progress analysis.
 - b. Prepare monthly progress schedule updates, submit for review and incorporate the City's review comments into the schedule.
 - c. Coordinate the participation of qualified personnel to assist in the development of the initial design and construction schedule and updating of the monthly progress schedule.
 - d. Develop a Work Breakdown Schedule (WBS) to the appropriate level and be able to discuss verbally and in writing the applicability of the WBS.
 - e. Incorporate milestone dates for Owner-furnished products and deliverables.
 - f. Incorporate submittal requirements, procedures and time required for review of submittals and resubmittals.
 - g. Incorporate requirements for tests and inspections by independent testing and inspecting agencies.
 - h. Incorporate required meetings, such as Safety and Pre-work meetings.
 - i. Incorporate time required for Project closeout and Owner start-up procedures, including commissioning activities.
 - j. Adhere to contract specifications and requirements.

C. Schedule Submittal Package Requirements:

1. XER/XML file compatible with the latest version of Oracle Primavera P6
2. PLF File (if XER)
3. Narrative report including the following:
 - a. Prepare an accurate statement of the project's progress status to assist in decision making.
 - 1) Contract Milestone Dates, Current Schedule Dates
 - 2) Activities started or completed since last update
 - 3) Identify deviations from the baseline schedule and evaluate possible corrective actions.
 - 4) Logic Changes
 - 5) Critical Path Analysis / Schedule Risks
 - 6) Upcoming Activities that are impacted by or may impact stakeholders
 - 7) Change Order Activities
 - 8) Weather and other delays
 - b. A standard layout will be provided to the contractor.
4. PDF of the following:
 - a. Full Schedule View
 - b. Critical Path
 - c. Three Week Lookahead

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1.05 SCHEDULE PREPARATION REQUIREMENTS

- A. Schedules should meet the requirements outlined in the “Schedule Approval Checklist” (Appendix 1) and the “Contractor Schedule Package” (Appendix 2). Contractor shall obtain current versions of Appendix 1 and 2 from the DEN Project Manager for use in developing the schedule. These requirements utilize the following documents as references for best practices:
 - 1. AACE Recommended Practices (RP)
 - 2. USACE Project Schedules Regulation ER_1-1-11
 - 3. DCMA 14-Point Schedule Assessment

- B. Projects regulated by the FAA must follow all FAA scheduling requirements, in addition to the requirements provided by DEN. In the event of a conflict between the DEN and FAA scheduling requirements, the more stringent requirement shall apply.

- C. The schedule shall satisfy, at minimum, the following criteria:
 - 1. Prepare all Project Schedules utilizing the Critical Path Method (CPM) of network calculation to generate all schedule reporting.
 - 2. Show in the schedule, the proposed sequence to perform the work and dates contemplated for starting and completing the schedule activities.
 - 3. The scheduling of the entire project is required.
 - 4. Provide a schedule that is forward planning as well as a project monitoring tool
 - 5. Contractors, Design management personnel and DEN PMT/Stakeholders shall actively participate in its development.
 - 6. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate project schedule.
 - 7. The contractor shall keep the subcontractors and suppliers informed of the Project Construction Schedule to enable the subcontractors to plan and perform their work properly.
 - 8. All schedules shall comply with the City and County of Denver General Contract Conditions (GC)
 - 9. The schedule WBS will align with the approved schedule of values, as determined by the DEN Project Management Team, and contain, at minimum, the following milestone activities:
 - a. Start
 - b. Mobilization Complete
 - c. Substantial Completion
 - d. Final Completion
 - e. DEN reserves the right to request additional milestones to be included in all schedules as appropriate for each projects. The additional reporting requirements will be communicated by the Project Manager and PMO.

- D. Cost and Resource Loading of P6 Schedules
 - 1. All schedules shall be cost loaded using the Lump Sum resource. Cost loading will align with the approved schedule of values, as determined by the DEN Project Management Team.
 - 2. Period Performance shall be stored for each schedule update provided to DEN.
 - 3. All schedules will be resource loaded with manhours by critical trade. Additional

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resource loading requirement may be required by DEN PMT.

E. Layout Requirements (.PLF)

1. Project Layout Files (.PLF) will be created to standardize the information provided to DEN from the schedule, and the .PLF will be used to create the PDF schedule documents as part of the submittal package.
2. All PDF's will contain both the table and the Gantt Chart, and will be scaled to fit timescale to 1 page wide. Additionally, the following information will be displayed:
 - a. Table will contain: Activity ID, Activity Name, Baseline Start, Baseline Finish, Original Duration, Start, Finish, Duration at Completion, Finish Variance, Total Float
 - b. Gantt Chart:
 - 1) Timescale shall show the entire project schedule without cutting off any data
 - 2) In the Bar Options, the following Bars shall be displayed: Remaining Level of Effort, Actual Level of Effort, Primary Baseline, Actual Work, Remaining Work, Critical Remaining, Start Constraint, Finish Constraint, Milestone, Summary, Negative Float Bar. Activity names will be included as the bar label.
 - 3) In the Bar Chart Options, "Show Relationships" shall be checked.
 - 4) In the print layout, the header shall include at minimum the data date, current date, filter, project name, schedule update version, and contractor. The footer shall contain at minimum the legend and page count.
3. Full Schedule View will not be filtered, all activities will be shown.
4. Critical Path view will be filtered to show only the critical Activities.
5. Three Week Lookahead View will be filtered to show activities completed in the past week, or activities that are in progress or not started for the next three weeks.
6. Additional information or reports may be requested at the DEN Project Management Team's discretion, including but not limited to cash flow, manhours graph, earned value, period performance.

F. Withholdings / Payment Rejection

1. Failure to meet the requirements of this Section may result in the disapproval of the schedules or updates and subsequent rejection of payment requests until requirements are met.
2. If the DEN Project Manager directs schedule revisions and those revisions have not been included in subsequent Project Schedule revisions or updates, the DEN Project Manager may withhold 10 percent of pay request amount for each payment period until such revisions to the project schedule have been made.

1.06 COORDINATION

- A. Pre-scheduling Conference:** Schedule conference at Pre-Construction meeting to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to setting up the Preliminary Project Design and / or Construction Schedule and Initial Project Construction Schedule, including, but not limited to, the following:
1. Verify availability of qualified personnel needed to develop and update schedule.
 2. Review content and format for reports.
 3. Discuss constraints, including phasing, area separations, interim milestones, stakeholder requirements and partial Owner occupancy.

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4. Review milestone dates for Owner-furnished products and deliverables.
 5. Review submittal requirements and procedures.
 6. Review time required for review of submittals and resubmittals.
 7. Review time required for Shutdown request and approval.
 8. Review requirements for tests and inspections by independent testing and inspecting agencies.
 9. Review time required for Project closeout and Owner startup procedures, including commissioning activities.
 10. Review procedures for updating schedule.
 11. Review requirements for content and input of direct man-hour resources in activities.
 12. Review requirements for cost loading of activities.
 13. Coordinate Initial Project Construction Schedule with the Schedule of Values and Schedule Template.
 14. Secure time commitments for performing critical elements of the Work from entities involved.
- B. Construction Coordination: If there are activities in the schedule that are impacted by DEN, DOR, other contractors or other stakeholders, a periodic meeting will be set up with all stakeholders to evaluate the schedule and confirm dates for activities outside of the contractor's control. The contractor will be responsible for providing the most up to date schedule to all attendees in PDF format, in accordance with Section 1.3.C Submittals of Technical Specifications 013210 Schedule. The frequency of this meeting will be at the discretion of the Project Management Team.
- C. Delays, Recovery Schedules, and Requests for Extension: If the project is experiencing delays, a meeting will be set up with the designer, engineer, contractor, the PMT, and DEN Project Controls to evaluate the package provided by the contractor. The designer / contractor will be responsible for providing the most up to date schedule to all attendees in PDF format in advance of any meetings, in accordance with Section 1.3.C Submittals of Technical Specifications 013210 Schedule, as well as any supplemental information that supports requests for re-sequencing, extensions etc. Additionally, the contractor will provide all required information from sections 3.10, 3.11, and 3.12 of Technical Specifications 013210 Schedule. If DEN determines that additional coordination is required, a periodic meeting will be set up at the discretion of the Project Management Team.

PART 2 - PRODUCTS

2.01 SOFTWARE

- A. DEN Default Software:
1. DEN shall use the latest release of Oracle Primavera P6 for all city scheduling needs.
- B. Designer / Contractor Software:
1. Scheduling software used by the designer / contractor shall be compatible with the latest release of Oracle Primavera P6.
 2. The software and any support agreements shall be purchased at the designer's / contractor's expense from a vendor of the contractor's choosing.
 3. The City will not provide training or support services for designer / contractor purchased software.

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C. Oracle Primavera P6 Software Settings:

1. The following settings are mandatory and required in all schedule submissions to the City. Submittals that do not meet these criteria will be rejected:
 - a. All schedules will only contain project data at the Project Level and not at the Global or EPS level. Project data includes but is not limited to calendars, risks, OBS, activity codes and user defined fields.
 - b. Time Period Administration Preferences shall remain the default “8.0 hour/day, 40 hour/week, 172 hour/month, 2000 hour/year”. Set Calendar Work Hours/Day to 8.0-hour days.
 - c. Set Schedule Option for defining Critical Activities to “Longest Path”
 - d. Set up cost loading using single lump sum resource. The resource should be named “Lump Sum”. The Price/Unit shall be \$1/hour, Default Units/Time shall be 8h/d”, and settings “Auto Compute Actuals” and “Calculate Cost from Units” selected.
 - e. Activity ID’s shall not exceed 10 characters.
 - f. Activity Names shall not exceed 30 characters, and will start with Verb/Action, followed by the work area, followed by additional information.

PART 3 - EXECUTION

3.01 PRELIMINARY PROJECT DESIGN / CONSTRUCTION SCHEDULE SUBMISSION

A. General

1. Within ten (10) days after the issuance of Notice to Proceed (NTP), submit the Preliminary Project Design / Construction Schedule:
 - a. If contract time is greater than 120 calendar days, submit the Schedule defining the planned operations detailed, at a minimum, for the first sixty (60) calendar days of the project for acceptance.
 - b. If contract time is shorter than 120 calendar days. submit the Schedule defining the planned operations detailed for the full contract term for acceptance.
 - c. It shall be early start and late finish constrained and logically tied as specified.
2. The Preliminary Project Design / Construction Schedule shall form the basis for the Initial Design / Project Construction Schedule specified herein and shall include all the required plan and program preparations, submissions and approvals identified in the contract. For example, Design Work Plan, Design Submittal dates and review times, Quality Control Plan, Site-specific Safety Plan, and Environmental Protection Plan, etc.
3. The DEN Project Management Team will respond within 14 days to the Preliminary Schedule submittal with either acceptance or direction to revise and resubmit.
4. In lieu of the Preliminary Project Design / Construction Schedule, the Designer / Contractor may, at the Designer’s / Contractor’s own discretion, submit the Initial Project Design / Construction Schedule at the Design Kick-Off or Preconstruction Meeting.
 - a. If the Initial Project Design / Construction Schedule is submitted in lieu of the Preliminary Project Design / Construction Schedule, the DEN Project Management Team will respond within thirty (30) days with acceptance or direction to revise and resubmission is required within ten (10) days.
5. Acceptance of Preliminary Project Construction Schedule will not constitute approval of Schedule of Values.

3.02 INITIAL PROJECT DESIGN / CONSTRUCTION SCHEDULE SUBMISSION

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A. General

1. Submit the Initial Project Design / Construction Schedule for acceptance within fourteen (14) days after issuance of NTP.
2. The schedule shall demonstrate a reasonable and realistic sequence of activities which represent the Work through the entire contract performance period.
3. The DEN Project Manager will respond within 14 days with acceptance or direction to revise and resubmit.
4. The acceptance of the schedule is for general conformity to the Contract requirements and shall not constitute any relief of any Contract requirements.
5. Upon acceptance from the DEN Project Manager and DEN Project Controls, the Initial Project Design / Construction Schedule shall become the Baseline Schedule for the duration of the project.
6. The Baseline Project Design / Construction Schedule may be changed when one or more of the following events occur:
 - a. When a Change Order significantly affects the contract completion date or sequence of work.
 - b. When the Designer / Contractor elects to change the sequence or duration of work items affecting the critical path resulting in a major change that requires DEN approval.
 - c. When the City directs a change that affects a milestone dates specified in the Special Conditions or alters the length of a critical path.
7. Failure to include any work item required for performance of this Contract shall not excuse the Designer / Contractor from completing all Work within applicable completion dates, regardless of the City's acceptance of the schedule.
8. Failure of the designer / contractor to have an Initial Project Design / Construction Schedule accepted by DEN Project Manager will be considered cause for withholding progress payment.
9. This submittal shall include all package requirements included in section 1.3.C of this Technical Specifications 013210 Schedule document.

3.03 MONTHLY PROGRESS DESIGN / CONSTRUCTION SCHEDULE UPDATES

A. General

1. The Designer / Contractor shall submit a monthly progress schedule at the end of each month following the issuance of NTP, prior to approval of the invoice.
2. At the end of each month, the Contractor and DEN Project Manager shall agree on the progress of the work and the Contractor shall update the Construction Schedule accordingly.
3. This review does not constitute an acceptance of the Monthly Progress Schedule update and shall not be used for the purpose of modifying the accepted Baseline Project Design / Construction Schedule.
4. Failure of the Designer / Contractor to have a Monthly Progress Design / Construction Schedule accepted by the DEN Project Manager will be considered cause for withholding progress payment per Article 306 - Working Hours and Schedules and Article 909 - Additional Withholding of Progress Payments of the General Contract Conditions, 2011 Edition.
5. The Designer's / Contractor's monthly progress schedule shall include all package requirements included in section 1.3.C of this Technical Specifications 013210 Schedule document.

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6. The Contractor shall provide the DEN Project Manager an electronic copy prior to and a minimum of four (4) hard copies of the Contractor's Three (3) Week Look-Ahead Schedule for review at the DEN Project Manager's weekly progress meeting.

3.04 AS-BUILT CONSTRUCTION SCHEDULE:

A. General

1. After all Contract Work items are complete, the contractor shall submit an as-built Project Construction Schedule that reflects the actual sequence of construction activities, includes all change order scope of work changes and shows actual start and finish dates for all work items and milestones for acceptance by the DEN Project Manager.
2. The basis for the As-built Construction schedule will be the approved Monthly Progress Schedules.

3.05 RECOVERY SCHEDULE

A. General

1. When a monthly progress schedule update indicates the Work is behind the current approved schedule, the Designer / Contractor submits a separate Recovery Schedule indicating the means by which the Designer / Contractor intends to regain compliance with the schedule.
2. No additional costs will be allowed if such expediting measures are necessary to meet the agreed completion date or dates except as provided elsewhere in the Contract Documents.
3. If the early finish date for any work item or the substantial completion date does not fall within the Contract Duration, the sequence of work or duration shall be revised by the Designer / Contractor through concurrent operations, additional manpower, additional shifts or overtime, additional equipment, or alternative construction methods until the schedule produced indicates that all significant contract completion dates, occupancy dates and milestone dates will be met.
4. Provide a narrative indicating changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
5. The narrative shall be submitted in accordance with Article 1105 – Time Extensions in the General Contract Conditions, 2011 Edition.

3.06 REQUEST FOR TIME EXTENSION

A. General:

1. Provide a justification of delay to the DEN Project Manager, in accordance with the Contract provisions and clauses, for approval within 10 days of a delay occurring.
2. Prepare a time impact analysis for each DEN Change Directive, Change Notice and Contractor's Change Request to justify time extensions.
3. Added work by the City does not necessarily entitle a Designer / Contractor to a Time Extension, unless the Designer / Contractor can prove that this new added scope impacts the current critical path without manipulating any of the logic and relationships in the most recent and approved schedule.
4. The City may reject any Time Extension Request that does not include a detailed and a clear time impact analysis that shows direct impact to the most current critical path along with a detailed productivity rate calculation to justify the requested time to

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execute such added work.

5. If the Designer / Contractor is granted an extension of time for completion of any milestone or contract completion date under the provisions of the Contract, the determination of the total number of extended days will be based upon the current analysis of the schedule and upon all data relevant to the extension. Such data shall be incorporated into the next monthly update of the schedule.
6. The Designer / Contractor acknowledges and agrees that delays in work items that, according to schedule analysis, do not affect any milestone dates or the Contract completion date shown on the CPM Network Schedule at the time of the delay will not be the basis for a Contract extension.

B. Justification of Delay

1. Provide a description of the event(s) that caused the delay and/or impact to the work. As part of the description, identify the schedule activities impacted.
2. Show that the event that caused the delay/impact was the responsibility of the City.
3. Provide a time impact analysis that demonstrates the effects of the delay or impact on the project completion date or interim completion dates.
4. Multiple impacts shall be evaluated chronologically; each with its own justification of delay. With multiple impacts, consider concurrency of delay.
5. A time extension and the schedule fragment become part of the project schedule and future schedule updates upon approval by DEN Project Controls.

C. Time Impact Analysis (Prospective Analysis)

1. Prepare a time impact analysis for City approval based on industry standard AACE 52R-06. Use a copy of the last approved schedule prior to the first day of the impact or delay for the time impact analysis.
2. If DEN Project Controls determines the time frame between the last approved schedule and the first day of impact is too great, prepare an interim updated schedule to perform the time impact analysis.
3. Unless approved by the DEN Project Controls, no other changes will be incorporated into the schedule being used to justify the time impact.

D. Fragmentary Network (FragNet)

1. Prepare a proposed fragment for time impact analysis. The proposed fragment shall sequence new activities into the project schedule to demonstrate the influence of the delay or impact to the project's contractual dates.
2. Clearly show how the proposed fragment shall be tied into the project schedule, including the predecessors and successors to the fragment activities.
3. Obtain City approval of the proposed fragment before incorporating it into the project schedule.

E. Time Extension

1. Time extensions will not be granted until after the City has approved the Justification of Delay, including the time impact analysis.
2. No time extension will be granted unless the delay consumes the available Project Float and extends the projected finish date ("Substantial Completion" milestone) beyond the Contract Duration.
3. The time extension will be in calendar days.

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4. Actual delays that the City determines are caused by the Designer's / Contractor's own actions and result in a calculated schedule delay will not be a cause for an extension to the performance period, completion date, or interim milestone date.
- F. Impact to Early Completion Schedule
1. No extended overhead will be paid for delay prior to the original Contract Substantial Completion date.

3.07 FAILURE TO ACHIEVE PROGRESS

- A. General:
1. If the progress falls behind the approved baseline project schedule for reasons other than those that are excusable within the terms of the Contract, the City may require submittal of a written recovery plan for approval.
 2. The plan shall detail how progress shall be recovered, including which activities will be accelerated by adding additional crews, longer work hours, extra work days, etc.
- B. Artificially Improving Progress
1. Artificially improving progress by means such as, but not limited to, revising the schedule logic, modifying or adding constraints, shortening activity durations, or changing calendars in the project schedule is prohibited.
 2. Indicate assumptions made and the basis for logic, constraint, duration, and calendar changes used in the creation of the recovery plan.
 3. Additional resources, manpower, and daily and weekly work hour changes proposed shall be evident at the work site and documented in the daily report along with the Schedule Narrative Report.
- C. Failure to Perform
1. Failure to perform work and maintain progress in accordance with the supplemental recovery plan may result in an interim and final unsatisfactory performance rating and/or may result in Non-Conformance Report for corrective action directed by DEN Project Controls pursuant to other Contract provisions.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013210

SECTION 013223.11

CONSTRUCTION LAYOUT AND AS-BUILT SURVEYS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section covers Denver International Airport (DEN) procedures and accuracy requirements for survey services for construction layout, and as-built.
- B. Before commencing any field surveys on DEN property, the Contractor must coordinate a pre-survey preparation activities meeting. This meeting is to be arranged through the DEN Project Manager's Office with the attendance of the Contractor and the DEN Survey Section. The Contractor is responsible for obtaining DEN related survey guidance, Access to DEN survey network, Primary Control, projection parameters, and training materials from the DEN Survey at the pre-survey meeting and/or prior to beginning any survey work.
 - 1. Project Checklist, provided as part of this Specification, must be reviewed at the pre-survey preparation activities meeting. (Refer to Article 1.11.)

1.03 REFERENCE DOCUMENTS:

- A. Section 013223.15 "Survey Information".
- B. Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples".
- C. Latest version of Federal Aviation Administration Advisory Circular 150/5300
- D. Latest Version of DEN BIM DSM (Design Standards Manual)
- E. Latest Version of Colorado Department of Transportation (CDOT) Survey Manual.
- F. Latest Version of Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Survey

1.04 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for the submittal process.
- B. Survey Statement of Work (SSOW):
 - 1. The Contractor must develop a complete SSOW and submit it to the DEN Project Manager. The SSOW is the Contractor's written description of the Contractor's methodology for surveying services that must be provided as part of the Project, including specific features that must be surveyed, action items, timelines necessary airport resources and general information.
 - 2. SSOW must be submitted by the Contractor prior to commencement of any survey or

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layout work on the site.

3. The SSOW will be accepted by the DEN Project Manager.
4. Under no circumstances must the Contractor begin work until the SSOW has been accepted.

C. Survey and Quality Control Plan (SQCP):

1. The Contractor must develop a complete SQCP and submit it to the DEN Project Manager. The SQCP is the Contractor's written description detailing the Contractor's methodologies for data collection, data safeguarding and quality assurance. Provide insight on how the Contractor must completely check all data to ensure it is complete, reliable, and accurate. Identify data safeguards used to protect the sensitive and safety critical data. Utilize a checklist based quality control process with definable and repeatable standards for each element ensuring consistency of work between different personnel within an organization. Submit the plan in a non-editable PDF.
2. SQCP must be submitted by the Contractor prior to commencement of any survey or layout work on the site.
3. The SQCP will be accepted by the DEN Project Manager.
4. Under no circumstances must the Contractor begin work until the SQCP has been accepted.

D. Final Project Survey Report:

1. The Final Project Survey Report, must use format from AC 150/5300-18B
2. Final Project Survey Report must be stamped and wet signed by a current Colorado Registered Professional Land Surveyor.

E. SURVEY DELIVERABLES:

1. Contractor must submit all of the following deliverables.
2. All raw files: GPS and Levels that is compatible with Trimble Business Center.
3. If combining x, y from GPS and z from Levels, provide field notes and data that shows where this data came from to verify values. The GPS point numbers must match to the Level descriptions.
4. As-built or as-constructed survey submittals must need to be in both Portable Document Format (PDF) and in AutoCAD Civil 3D. Refer to current and criteria document for direction on PDF production.
5. All copies of original pages of field notes or electronic field notes must be in (PDF).
6. Scanned copies of all original field notebooks used for this Project must be submitted at the end of Contract.
7. All as-built points files must be in either CSV or TXT format.
8. All CAD drawings must be in current approved Autodesk Civil 3D format.
 - a. CAD layers are specified in DEN BIM Design Standards Manual
 - b. DEN must provide the Autodesk Civil 3D drawing template.
9. The as-built survey must follow the most recent Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Survey for all sections, as far as they are applicable to the scope of work for the project and site in question.
10. Documentation in accordance with "Table A, Optional Survey Responsibilities and Specifications" (Refer to Article 1.11.) is filled out with the required content to be submitted.

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11. Hard copy of all documentation stamped and wet signature by licensed PLS responsible for the work.

1.05 QUALITY REQUIREMENTS

- A. Contractor – Company contracted to perform survey work under the direct supervision of a Colorado Registered Professional Land Surveyor with current FAA “Idle Certification”
- B. Subsurface Utilities Engineering (SUE): Refer to Section 011810 "Utilities Interface" for information related to underground utilities.
- C. Surveying accuracies and tolerances in control surveys, construction layouts: See CDOT Survey Manual for acceptable tolerances.

1.06 DEN SITE SURVEY REQUIREMENTS

- A. A site survey, construction survey, or construction as-built survey providing horizontal location and level information of surface features and both above and below ground services and utilities must be completed. This must also be annotated with information (where applicable) relating to the size, direction of and material type.
 1. When collecting utilities, Contractor must be responsible to have all exposed and installed utilities surveyed prior to being covered. If Contractor fails to survey utilities, DEN Project Manager can have the Contractor uncover the utilities so they can be surveyed.
 2. Any temporary works that remain at the completion of the project must also be surveyed.
 3. FAA and DEN Survey codes must be provided by The DEN Project Manager via DEN Survey or Designee and must be used throughout the project by Contractor for as surveyed features.
 4. The most current DEN Civil 3D template must be provided by The DEN Project Manager via the DEN BIM team. All DEN BIM requirements must be met.

1.07 DEN ALIGNMENT MONUMENTATION

- A. Alignment monuments must be set at their corresponding coordinates as shown on the monumentation sheet of the Alignment Plans. When monumenting the Alignment, the Contractor must verify that the latest set of Alignment plans are being used. After the Alignment monument locations are staked in the field, any necessary utility locates should be called for prior to setting the monument.
- B. All Alignment monuments set must be established within the Minimum Horizontal Accuracy Tolerance as required in this chapter for a CDOT Class B – Secondary survey.
- C. Alignment monuments must be set at the locations as shown on the Alignment Plans, which include the following locations:
 1. All angle points or changes of directions.
 2. At the beginning and ending of curves.
 3. At the points of change of direction or changes of radius of any boundary defined by circular arcs.
 4. Not to exceed 1,400 feet apart along any straight boundary line.
 5. Any other points as approved by the Survey Coordinator due to field conditions encountered during setting of the Alignment monumentation.

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- D. Alignment monuments must have a witness post installed within 2 ft and facing the monument, or as accepted by DEN Survey. For setting easement monuments, the witness post requirement may be waived by DEN Survey.
- E. Use Orange Carsonite witness post:
- F. All Alignment monument caps set in the field must be stamped with the following:
 - 1. DEN Project Code number
 - 2. Point number as shown on the Right of Way Plans
 - 3. Colorado PLS number setting the monument
- G. All Alignment monuments set in the field must be shown on the Final set of Alignment Plans in accordance with the CDOT Right of Way Manual, Chapter 2 – ROW Plans. The Colorado PLS who is in responsible charge for setting the Alignment monuments must stamp her/his number on the monument cap, and must certify on the Alignment Plans to setting of the Alignment monuments in the field.
- H. The Contractor in responsible charge of the Alignment Plans and the Contractor in responsible charge of setting the Alignment monuments in the field might not be the same individual. Therefore, care must be taken to ensure any monuments set in the field at locations different than that shown on the Alignment Plans are communicated to the Alignment plans section, and the final Alignment Plans are corrected to show these new monument locations and descriptions prior to submitting the plans to DEN Survey.
- I. Alignment monuments, witness posts, and monument box materials must be furnished by Contractor.

1.08 FEATURES TO BE RECORDED

- A. Surface and Above Ground Features: The survey of surface features must include, but is not limited to:
 - 1. Structures and Surfaces – paths, driveways, retaining walls, slabs/paved areas, significant structural footings (plinths etc.), poles/ floodlighting.
 - 2. Drainage Structures – headwalls, open drains, grated drains, culverts.
 - 3. Roads – edge of pavement, curbs, shoulders, line-marking, bridges, road furniture (NOTE – the top back and bottom face of curb, and all water channels must be surveyed and recorded).
 - 4. Buildings – footprints, awnings, overhangs, columns, external fixtures (stairs, ramps, plant, etc.).
 - 5. Topographical Features – general topography, embankments, earthworks platforms and surcharge.
 - 6. Signage – road, airfield, parking, advertising, other general signage.
 - 7. Survey Marks – survey control points used, any settlement plates/ monitoring points placed during works.
 - 8. Airfield panel corner elevations must be derived from digital levels.
- B. Services and Utilities - Prior to any backfilling or covering, information on all underground services must be obtained and documented according to DEN's modified ASCE-SUE Standards, including but not limited to:
 - 1. Electrical (LV and HV) – top of conduit every fifty feet including horizontal and vertical

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- bends, cables and conduits, pits/ manholes and chambers, HV cable joints, earth points and earth mats, substations/ transformers and surrounding pad, pillars, cabinets and switchboards, top of conduits.
- 2. Fuel Control – top of conduit every fifty feet including horizontal and vertical bends, cables and conduits, pits/ manholes and chambers, cabinets, emergency shut-off points.
 - 3. Communications - top of conduit every fifty feet including horizontal and vertical bends, fiber optic, microducts, comms cables and conduits, pits/ manholes and chambers, top of conduit casing/housing.
 - 4. Drainage – top of pipes at fifty-foot intervals and at every vertical and horizontal bend, inspection openings, pits/ manholes and chambers, roof water drainage (downpipes, small pits/ grates).
 - 5. Fuel – top of pipes every fifty feet including horizontal and vertical bends, all weld points with weld numbers documented in the point description and in the field notes, pits/ manholes and chambers, valves, hydrants, earth points, test points.
 - 6. Sewer (note whether gravity or force main) – top of pipes every fifty feet including horizontal and vertical bends, pipes, pipe inverts, pipe outflows, inspection openings, pits/ manholes and chambers, vent pipes, pump stations and associated components.
 - 7. Water (differentiate between potable and recycled) – top of pipes every fifty feet including horizontal and vertical bends, pits/ manholes and chambers, valves (and type), meters, taps, hydrants, tanks, pumps, irrigation control.
 - 8. Compressed Air – top of pipes every fifty feet including horizontal and vertical bends, hoses and other fixtures.
 - 9. Natural Gas / Petroleum– top of pipes every fifty feet including horizontal and vertical bends, valves, tanks, meters.
- C. Sufficient points must be recorded to ensure that the extremities of all surface features, structures and footings are clearly defined and all bends, intersections, and changes of gradient are accurately recorded. The distance between points of location should generally be about 50 feet and must not exceed 100 feet. All curves must be accurately defined using a minimum of three points (two tangent points and one midpoint).
- D. Where actual positions of linear features deviate from a straight line, sufficient additional points of location must be provided to define the deviation – horizontal and/or vertical change in directions.
- E. For systems, utilities, and features not identified herein, refer to PM for direction on capture requirements

1.09 SURVEY METHODOLOGY – SERVICES AND UNDERGROUND FEATURES

- A. Sufficient points must be recorded to ensure that the extremities of all pits, manholes, and any other features related to the service are clearly defined and all bends, joints, intersections, changes of gradient, and fittings on or along the service, pipe or conduit are accurately recorded. All curves must be accurately defined using a minimum of three points (two tangent points and one midpoint). Where actual positions of linear features deviate from a straight line, sufficient additional points of location must be provided to define the deviation – horizontal and/or vertical change of directions.
- B. The maximum distance between points of location along services must not exceed 50 feet. Horizontal and vertical locations must be surveyed on the top of the utility and must be labeled as “top”. Inverts measurements must also be taken in manholes and must be

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labeled.

- C. The Contractor must record and annotate all services and utilities with information relating to the size, direction of and material type. The Contractor must record and clearly differentiate between the communication service providers and DEN and/or FAA communications infrastructure.
- D. The Contractor must record the size and orientation of all grates, pits and manholes. Grates and pits must be recorded using a minimum of three corner or edge points. Pit/ manhole chambers only need to be located and where the extents of the chamber extend past the extremities of the pit at surface level. In all instances, any thrust blocks or concrete cover/ protection over services must be located, showing depth.

1.10 EXISTING FEATURES AND SERVICES

- A. Existing Services: where the existence of services and other features on the site of the Work and the Work exposes or interacts with these existing services, the Contractor must locate and record the details of all such features and services.
- B. Tunnel Boring: The Contractor must provide records (logs, profiles etc.) relating to all tunnel boring undertaken as part of the Project. Where appropriate this information must be incorporated into the as-built site survey. Where the contract drawings do not show the existence of certain utilities and features and the Work exposes or interacts with the utilities and features, these must be located and recorded by the Contractor.
- C. Services Alteration/ Abandonment / Demolition: Where existing infrastructure, building services and/or utilities are demolished or services realigned or abandoned this information must be reflected within the as-built site survey. A distinction must be made between services (or part services) which have been abandoned (but left in the ground) and those that have been physically removed.

1.11 SURVEY CHECK LIST

	Yes	No	N/A	Project Kickoff Phase
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor meet with DEN PM obtain the data standards and general requirements for data gathering?
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor meet with Airport Survey Office to obtain airport survey control points, projection parameters, and airport survey training materials?
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor provide Survey Statement of Work to DEN PM?
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor provide Geodetic Verification Survey to DEN PM?
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor provide Survey Control Plan to DEN PM?
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor provide Imagery Plan to DEN PM? (Only required if collecting aerial imagery)?
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did the FAA accept survey plans?
	Yes	No	N/A	Construction Phase (As-Built)
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor perform field survey of project site to collect accurate as-built data?
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did the Contractor provide DEN PM with subsurface utility data?
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Each week, did the Contractor provide DEN PM with Project Status Reports?

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11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did the Contractor provide DEN PM with 25% as-built data in both CADD and GIS formats including all attribute information and metadata?
12a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did DEN PM report 25% QA findings via email to Contractor?
12b	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If required, did the Contractor provide DEN PM with 50% as-built data in both CADD and GIS formats including all attribute information and metadata?
12c	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If applicable, did DEN PM report 50% QA findings via email to Contractor?
12d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If required, did the Contractor provide the DEN PM with 75% as-built data in both CADD and GIS formats including all attribute information and metadata?
12e	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If applicable, did DEN PM report 75% QA findings via email to Contractor?
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did the Contractor provide DEN PM with 100% as-built data in both CADD and GIS formats including all attribute information and metadata?
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did Contractor provide DEN PM with a completed Final Survey Report?
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Did DEN PM report QA findings via email to Contractor?

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONSTRUCTION LINES AND GRADES

- A. The Contractor must make surveys and layouts as necessary to delineate the Work. The Contractor must make the surveys for the proper performance of the Work. As a part of such surveys, the Contractor must furnish, establish, and maintain in good order survey control points that may be required for the completion of the Work subject to the approval of the DEN Project Manager as to their location, sufficiency and adequacy. However, such approval by the DEN Project Manager must not relieve the Contractor of responsibility for the accuracy of the Contractor's survey work.
- B. The DEN Project Manager must have the right to check surveys and layouts made by the Contractor prior to approving any of the Work. The Contractor must give advance notice of not less than forty-eight (48) hours to the DEN Project Manager to enable such checking prior to placing any work. The Contractor must furnish assistance as may be required for checking purposes when so requested by the DEN Project Manager.
- C. The Contractor must furnish skilled labor, instrument platforms, ladders and such other temporary structures as may be necessary for making and maintaining points and lines in connection with the surveys required.
- D. The DEN Project Manager may draw the Contractor's attention to errors or omissions in lines or grades, but the failure to point out such errors or omissions must not give the Contractor any right or claim nor must in any way relieve the Contractor of obligations according to the terms of this Contract.
- E. The Contractor's instruments and other survey equipment must have current certification from manufacturer's representative. Surveys must be performed under the direct supervision of a current Colorado Registered Licensed Land Contractor.

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F. Field Notes:

1. The Contractor must record surveys in field notebooks or as electronic field notes, whichever is more appropriate to the type of survey work.
2. If the DEN Project Manager finds errors in the field notes DEN must have the Contractor correct and resubmit the notes. This review does not relieve the Contractor from the responsibility of maintaining accurate survey data. Whichever method of note-taking the Contractor starts with, the Contractor must use the same method throughout the Contract duration.

- G.** The DEN Project Manager may at any time use line and grade points and markers established by the Contractor. The Contractor's surveys are a part of the Work and may be checked by the DEN Project Manager or the DEN Project Manager's representatives at any time.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A.** No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A.** No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013223.11

SECTION 013223.15**SURVEY INFORMATION****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section covers Denver International Airport (DEN) procedures and accuracy requirements for survey control.
- B. Before commencing any field surveys on DEN property, the Contractor must coordinate a pre-survey preparation activities meeting. This meeting is to be arranged through the DEN Project Manager's Office with the attendance of the Contractor and the DEN Survey Section. The Contractor is responsible for obtaining DEN related survey guidance, Access to DEN survey network, Primary Control, projection parameters, and training materials from the DEN Survey at the pre-survey meeting and/or prior to beginning any survey work.
- C. Survey Project Checklist, provided after the end of this Section, will be reviewed at the pre-survey preparation activities meeting.

1.03 REFERENCE DOCUMENTS:

- A. Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples".
- B. Latest version of Federal Aviation Administration Advisory Circular 150/5300
- C. Latest Version of DEN BIM DSM (Design Standards Manual)
- D. Latest Version of Colorado Department of Transportation (CDOT) Survey Manual.
- E. Latest Version of Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Survey

1.04 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for the submittal process.
- B. Survey Statement of Work (SSOW):
 - 1. The Contractor must develop a complete SSOW in accordance with Specification Section 013223.11, "Construction Layout and As-Built Surveys".
- C. Survey and Quality Control Plan (SQCP):
 - 1. The Contractor must develop a complete SQCP in accordance with Specification Section 013223.11, "Construction Layout and As- Built Surveys".

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- A. Equipment Calibration:
1. Equipment must be regularly checked, and calibrated for accuracy at the beginning of any survey project to ensure that the equipment is operating appropriately. Errors due to poorly maintained or malfunctioning equipment will not be accepted. If any equipment errors are found to exist they must be reported to the DEN Survey prior to the start of any surveying. These errors must be verified and eliminated prior to performing any survey work. For projects lasting longer than six (6) months, the checking, and calibration of equipment must be repeated. Furthermore, documentation must verify such equipment has met acceptable tolerances.
 2. The Contractor must submit to the DEN Project Manager written proof that survey equipment has been checked and calibrated before commencing any survey work. If repairs are made, documentation of such repairs from an authorized equipment vendor must be submitted.
- B. See CDOT Survey Manual for acceptable procedures for calibrating equipment electronic survey instruments adjustments, calibration, or repairs:
1. All electronic survey instruments must be repaired, adjusted, or calibrated only by an authorized equipment vendor or manufacturers service department.
 2. A calibration check on all types of electronic survey instrumentation is essential to obtain and maintain the tolerances required for any DEN project. At the beginning of any DEN project, all survey equipment utilized to perform the survey must be calibrated by the surveyor in charge of the Project.
 3. See CDOT Survey Manual for acceptable procedures for calibrating equipment.
- C. Baseline Calibration Requirements:
1. See CDOT Survey Manual for the procedures to check the survey equipment and the method of reporting the findings to the DEN Project Manager and the DEN Survey Section.
 2. The Contractor must submit to the DEN Project Manager written proof that survey equipment has been checked and calibrated before commencing any survey work. If repairs are made, documentation of such repairs from an authorized equipment vendor must be submitted.

1.06 SURVEY CONTROL

- A. DEN utilizes its own local coordinate system that is tied to the National Spatial Reference System (NSRS). The DEN Survey Section will provide the data required to use this coordinate system during the mandatory pre-survey preparation activities meeting. The DEN Survey Section will also provide coordinates for all Primary Control Points based upon the location of the Project.
- B. The coordinates of the Primary Airport Control Station (PACS) and Secondary Airport Control Station (SACS) were correct at the time of installation (or subsequent date listed on the plan) but may be subject to the effects of subsequent subsidence and/ or disturbance. Marks with any noticeable signs of disturbance, damage, or location out of tolerance must be reported so that they can be repaired and/ or noted on the control plan. In addition, any marks that have been or will be destroyed either before or during Works must be noted and mentioned in the Survey Statement of Work and the Survey and Quality Control Plan. If removed or destroyed, the Contractor will create a plan and must replace the PACS or SACS.

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- C. DEN is based on the North American Vertical Datum of 1988 (NAVD 1988). Vertical Control and Bench Marks must be tied into this datum. DEN has existing established National Geodetic Survey (NGS) vertical stations around its property and these points must be used in all DEN projects. Project control points must be established by performing measurements with a digital level from at least two NGS vertical stations that are given by the DEN Survey Section. The benchmarks used to establish ties to the datum must be shown in the Contractor's notes and on the CSP.

- D. The Contractor will be provided survey control from the DEN Survey Section. If the nearest NGS Vertical Station is a considerable distance from the site, the Contractor may establish a Temporary Survey Control Point (TSCP) near the site. Appropriate survey procedures must be used to establish any additional TSCP. A minimum of 3 TSM must be established for the project. Each must be visible and tied to at least 2 separate TSCP or PACS and/or SACS. It is the Contractor's responsibility to verify the stability of the mark over the life of the project. Where unacceptable discrepancies in control marks due to land settlement, disturbance or from other factors are apparent, the Contractor must refer the matter to DEN Project Manager for resolution prior to the continuation of Work.

- E. Horizontal Control is based on a local coordinate system. The Contractor must establish reliable horizontal control that will last the duration of the Project. Where unacceptable discrepancies in control marks due to land settlement, disturbance or from other factors are apparent, the Contractor must refer the matter to DEN Project Manager for resolution prior to the commencement of Work. The horizontal control establishing ties to the datum must be shown in the Contractor's notes and on the CSP.

- F. Geodetic Verification Survey Instructions and Procedures:
 - 1. The geodetic verification survey is created to insure the stable position of the DEN Primary control points that are used to reference the TSCP to the NSRS. Acceptable monuments will be identified by the DEN Survey Section and will be limited to monuments of the NSRS with permanent identifiers (PIDS) and published positions and elevations. Temporary design/construction control points established for such project will be referenced by direct measurement to at least two (2) separate NGS control stations.
 - a. The Contractor must recover each identified monument and determine its condition, stability, and suitability for the intended use. A location sketch and visibility diagram will be prepared for each station. A minimum of three (3) digital photographs, one of each type described in AC 150/5300-18B, Section 1.5.2.1, will be captured, captioned, and properly named. A recovery note will be filed with NGS if no current recovery is shown in the NSRS database.
 - b. After recovering the identified NSRS NGS control stations that are located on DEN property, the procedure to verify the control points are as follows:
 - 1) DEN has created its own Virtual Reference System (VRS) Network that will be used on all survey projects. This network will be known as DENVRS.
 - a) This system is comprised of hardware and software designed to facilitate real-time GPS/GNSS positioning based on a set of reference stations.
 - b) DEN has created a control network that incorporates fifteen (15) Primary Control Points tied together with the reference stations for the DENVRS,
 - c) This network, in turn, is tied to the National Spatial Reference System (NSRS).
 - d) DEN will be monitoring the stations on an annual basis and the primary control points on an annual basis and the primary control points on a quarterly basis.
 - 2) The Consultant is required to validate the DENVRS by observing at least two (2) Primary control points using a Fast Static method

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- a) Fast Static surveys allow for systematic errors to be resolved when high accuracy positions are required by collecting simultaneous data between stationary receivers for a shorter period of time than that of Static surveys. DEN will require an observation time of (15) minutes on all Primary control points. Each baseline between adjacent intervisible control points must be observed at least twice.
 - 3) The results must be reviewed and approved by the DEN Survey Office, allowing at least seventy-two (72) hours to review and either approve or reject the temporary control. All temporary control points MUST BE accepted before any design survey work can commence.
 - 4) Obtain elevation checks either from GPS observations or from digital levels. The distances must agree within, plus or minus, three (± 3) cm; the difference in ellipsoidal height must agree within, plus or minus, four (± 4) cm, and the difference in orthometric height must agree within, plus or minus, five (± 5) cm. If the tolerances are not met the data must be recollected.
 - 5) Provide the results or the comparisons as part of the observational data in a report to the DEN Project Manager to be reviewed and approved by the DEN Survey Section prior to the start of construction and include this approved report in the final report.
 - 6) Submit a Recover Observe Report for the NGS horizontal control stations to the NGS. Refer to <https://www.ngs.noaa.gov/GPSonBM/Report.shtml> for the report format.
- G. Limitations and Additional Information for NGS Control Stations and NGS Benchmarks:
 1. The use of control monuments and projection parameters for construction layout other than those shown on the Contract Drawings or furnished by or approved by the DEN Survey Section is STRICTLY PROHIBITED. Use of other monuments is solely at the risk of the Contractor.
 2. The DEN Survey Section will provide the Contractor with the projection parameters and any assistance in implementing the coordinate system. It is up to the Contractor to use the correct methodology in performing any survey task which must be submitted to the DEN Project Manager and reviewed during the pre-survey preparation activities meeting.
 3. The DEN Project Manager will need all pertinent data from the Contractor to check and verify that the Contractor implemented the coordinate system correctly.
- H. Modifications to AC 150/5300-18B, Section 2.6.10.1.1, Verification of Survey Marks:
 1. DEN requires Contractor to verify the unmoved position and elevation of both the PACS and SACS for any airside projects and any two (2) DEN approved NGS control stations for any landside project.
 2. The Contractor must follow the same verification procedure as stated in Section G above.
- I. Reporting Damage or Errors of NGS Control Stations:
 1. Report damaged or destroyed airport control points, bench marks, and section corner monuments promptly to the DEN Project Manager.
 - a. If section corner monuments are damaged or destroyed during construction activities, such points must be re-established pursuant to Laws of the State of Colorado Regulating the Practice of Land Surveying by a current Registered Professional Land Contractor in the State of Colorado.
 - b. If NGS control stations or NGS bench marks are damaged, moved, altered, or destroyed by the Contractor, DEN's cost of reestablishing such points must be

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- borne by the Contractor.
- c. DEN will not be responsible for any increased costs or delays to the Contractor relating to reference points, airport control points, or bench marks which are damaged, moved, altered, or destroyed by the Contractor or its, suppliers, agents or employees or other Contractors working on the site.
- 2. Report alleged errors in NGS control stations or NGS bench marks promptly to the DEN Project Manager.
 - a. Discontinue use of NGS control stations or NGS bench marks alleged to be in error until the accuracy of points can be verified or as directed.
 - b. Claims for extra compensation for alteration or reconstruction allegedly due to errors in NGS control stations or NGS benchmarks will not be allowed unless original NGS control stations and NGS bench marks still exist or substantiating evidence proving error is furnished by the Contractor, and unless the Contractor has reported such errors to the DEN Project Manager as specified herein.

1.07 TEMPORARY SURVEY CONTROL

- A. The Contractor MUST set a minimum of either 'chiseled X' in concrete; a drill hole with lead and tack in concrete; a PK nail with shiner in asphalt or concrete or a 5/8" rebar with plastic cap in natural ground. An 'Inked X' set as a control point is UNACCEPTABLE.
- B. When a Contractor establishes TSCP for DEN survey work the Contractor MUST follow FAA guidelines. All TSCP must be referenced to the National Spatial Reference System (NSRS) using the NGS control stations provided by the DEN Survey Section. Temporary control may be necessary based on project site location. Below are the acceptable means to establish temporary geodetic control for DEN design or construction projects:
 - 1. Temporary control must be established under close cooperation with the DEN Survey Section following the procedures outlined in AC150/5300-16 "General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to National Geodetic Survey" only in the following cases:
 - a. Large airport construction projects that significantly changes the airport geometry and would trigger the need to acquire new Digital Stereo Imagery following AC 150/5300-17 "General Guidance and Specification for Aeronautical Survey Airport Imagery Acquisition and Submission to the National Geodetic Survey". Examples include a new runway and taxiway complex, significant modification of existing runway or taxiway system, development of new outboard deice pad complex or establishment of new mid airfield concourse and terminal complex. The size and complexity of the Project will dictate the need to acquire new digital stereo imagery for significant construction.
 - b. Construction that establishes a new ILS CAT II/III Operations.
 - c. New Instrument Development Procedure.
 - d. New Airport Layout Plan Survey Update.
 - e. New Airport Obstruction Chart Update.
 - f. New Airport Mapping Database.
 - 2. On DEN projects, the Contractor, may use TSCPs on their project site. These TSCP must be referenced to the nearest two (2) DEN primary control points and MUST BE referenced vertically to two (2) different NGS benchmarks. Also, all Contractors MUST obtain permission to establish TSCPs on DEN property by means of communicating with the DEN Survey Section.
 - 3. In addition, all vertical control MUST BE established only using a digital level unless otherwise authorized by the DEN Survey Section.
 - 4. Minimum Construction Horizontal and Vertical Accuracy Tolerance:

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- a. Adjustments:
 - 1) No adjustment of the survey field data will be permitted without the written consent of the DEN Project Manager. If it is determined that an adjustment is necessary, a weighted least squares adjustment method is recommended.
- b. Primary NGS vertical stations values must be held unless the Contractor has determined that there is an issue with one of the values. If this is the case, the Contractor must notify the DEN Project Manager to determine which other Primary stations can be used.
- c. Secondary Control Project Benchmark Minimum Vertical Accuracy Tolerance:
 - 1) Setting of secondary control benchmarks must meet the Minimum Vertical Accuracy Tolerance of the square root of the total horizontal distance of the level loop in miles multiplied by 0.035 feet.
 - 2) The results of this evaluation must be recorded in the field book for each differential level loop. At least two (2) established NGS benchmarks on the same datum must be used to verify that the starting mark has not been disturbed.
- 5. Whether establishing TSCPs or not, the Contractor must set up a Pre-Survey Preparation Activity meeting with the DEN Project Manager to discuss Geodetic Control Verification, obtain pertinent survey data, and projection parameters before the commencement of any survey work.
- 6. If TSCPs are needed, the Contractor can set and collect temporary control while performing as outlined in Part 1 of this Section. Once the data is collected the Contractor is required to submit all pertinent data to the DEN Project Manager. This data must include all GPS raw data in a Trimble format with an Excel spreadsheet that displays the comparison from each observation of the NGS control stations. The comparison must include showing the delta northings, delta eastings, and delta elevations for each redundant pair of control points Contractor Only the redundant values of the TSCPs should be averaged. The results must be reviewed and accepted by the DEN Project Manager, allowing at least seventy-two (72) hours to review and either approve or reject the temporary control. All TSCPs MUST BE approved before any survey work can commence.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013223.15

SECTION 013223.19**QUANTITY SURVEYS****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section covers Denver International Airport DEN procedures and accuracy requirements for survey services for construction layout, as-built and quantity surveys.
- B. Before commencing any field surveys on DEN property, the Contractor must coordinate a pre-survey preparation activities meeting. This meeting is to be arranged through the DEN Project Manager's Office with the attendance of the Contractor, the Contractor's surveyor, and the DEN Survey Section. The Contractor is responsible for obtaining DEN related survey guidance, primary control stations, projection parameters and training materials from the DEN Survey Section prior to beginning any survey work.
- C. Reference Contract General Conditions.

1.03 REFERENCE DOCUMENTS:

- A. Section 013326 "Survey Control".
- B. Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples".
- C. Latest version of Federal Aviation Administration Advisory Circular 150/5300
- D. Latest Version of DEN BIM DSM (Design Standards Manual)
- E. Latest Version of Colorado Department of Transportation (CDOT) Survey Manual.
- F. Latest Version of Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Survey

1.04 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for the submittal process.
- B. Weekly Project Status Report:
 - 1. Contractor must submit a project status report in compliance with FAA AC 150/5300-18B to the DEN Project Manager every Monday by 2:00 P.M. Mountain Time, from the date of the task order until the date of Substantial Completion
 - 2. The Weekly Project Status Report must use format from AC 150/5300-18B
- C. Final Project Survey Report:

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1. The Final Project Survey Report, must use format from AC 150/5300-18B
2. Final Project Survey Report must be stamped and wet signed by a current Colorado Registered Professional Land Surveyor.

1.05 QUALITY REQUIREMENTS

A. Equipment Calibration:

1. Equipment must be regularly checked, and calibrated for accuracy at the beginning of any survey project to ensure that the equipment is operating appropriately. Errors due to poorly maintained or malfunctioning equipment will not be accepted. If any equipment errors are found to exist they must be reported to the DEN Survey prior to the start of any surveying. These errors must be verified and eliminated prior to performing any survey work. For projects lasting longer than six (6) months, the checking, and calibration of equipment must be repeated. Furthermore, documentation must verify such equipment has met acceptable tolerances.
2. The Contractor must submit to the DEN Project Manager written proof that survey equipment has been checked and calibrated before commencing any survey work. If repairs are made, documentation of such repairs from an authorized equipment vendor must be submitted.

B. See CDOT Survey Manual for acceptable procedures for calibrating equipment electronic survey instruments adjustments, calibration, or repairs:

1. All electronic survey instruments must be repaired, adjusted, or calibrated only by an authorized equipment vendor or manufacturers service department.
2. A calibration check on all types of electronic survey instrumentation is essential to obtain and maintain the tolerances required for any DEN project. At the beginning of any DEN project, all survey equipment utilized to perform the survey must be calibrated by the surveyor in charge of the Project.
3. See CDOT Survey Manual for acceptable procedures for calibrating equipment.

C. Baseline Calibration Requirements:

1. See CDOT Survey Manual for the procedures to check the survey equipment and the method of reporting the findings to the DEN Project Manager and the DEN Survey Section.
2. The Contractor must submit to the DEN Project Manager written proof that survey equipment has been checked and calibrated before commencing any survey work. If repairs are made, documentation of such repairs from an authorized equipment vendor must be submitted.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 QUANTITY SURVEYS FOR PAYMENT

- A. When the specifications or the DEN Project Manager require items in the Schedule of Prices and Quantities to be measured by surveying methods, the Contractor must perform the surveys.
- B. All such surveys, including control surveys run for establishing the measurement reference lines, must be performed in the presence of the DEN Project Manager or the DEN Project

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Manager's representative who will witness the surveying operation and who will acknowledge receipt of the field notes or keep duplicate field notes, at the DEN Project Manager's option.

- C. The Contractor must reduce the field notes and calculate final quantities for payment purposes. The note reductions and calculations must be given to the DEN Project Manager.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013223.19

SECTION 013233

PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Periodic construction photographs.
 - 3. Final Completion construction photographs.
 - 4. Web-based construction photographic documentation.

1.03 REFERENCE DOCUMENTS:

- A. Section 013300 "Submittal Procedures"
- B. Section 017720 "Contract Closeout"

1.04 ALTERNATES

- A. Refer to Section 012300 "Alternates"

1.05 INFORMATIONAL SUBMITTALS

- A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.
- B. Digital Photographs: Submit image files within three (3) days of taking photographs.
 - 1. Digital Camera: Minimum sensor resolution of 10 megapixels.
 - 2. Identification
 - a. Project title and Project number.
 - b. Date photograph was taken.
 - c. Unique sequential identifier keyed to accompanying key plan.
 - d. Photograph number.

1.06 USAGE RIGHTS

- A. Obtain and transfer copyright usage rights from photographer to City and County of Denver for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

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2.01 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 10 megapixels-

PART 3 - EXECUTION

3.01 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to show clearly the Work. Photographs with blurry or out-of-focus areas will not be accepted.
1. Maintain key plan with each set of construction photographs that identifies each photographic location.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software. Provide commercial quality, digital color photographs in PDF format. PDF file shall be security-free, bookmarked by date with all photos rotated to the correct orientation. Identify the following information on each photograph on the lower right corner.
1. Subject description (include work order number or change order number if applicable)
 2. Station point of camera and direction of view. Include letter size diagram of project indicating Station point
 3. Date and time each photo was taken
 4. Name of Contractor.
 5. Photograph number
 6. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to DEN Project Manager.
- C. Preconstruction Photographs: Before starting construction, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by DEN Project Manager.
1. Flag construction limits before taking construction photographs.
 2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
 3. Take 20 photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
 5. Haul route, laydown yard, and other locations as directed by DEN Project Manager.
- D. Periodic Construction Photographs: minimum of 30 photographs monthly, coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.
- E. Final Completion Construction Photographs: Take minimum of 10 color photographs after date of Substantial Completion for submission as project record documents. ~~DEN Project Manager will inform photographer of desired vantage points.~~

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1. Include date stamp.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013233

SECTION 013300

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Related Sections:
 - 1. 012600 - Contract Modification Procedures

1.02 SUMMARY

- A. The Work specified in this Section summarizes the requirements for the submittal of documents to the DEN Project Manager that are defined in these Specifications. It also describes the procedures for "supplemental" submittals.
- B. The Contractor must follow all the requirements of the procedures and the product details and keep all the submittals current and approved prior to any placement of work.

1.03 SUBMITTAL SCHEDULE

- A. The Contractor shall provide a submittal schedule within 14 days after Notice to Proceed. The Submittal Schedule shall be directly related to the CPM schedule, shall identify all the submittals, and shall include the following information for each submittal item
 - 1. Specification section, Contract article, or special condition.
 - 2. Specification Subparagraph.
 - 3. Item description.
 - 4. Date the submittal shall be submitted.
 - 5. Name of subcontractor or supplier.
- B. The submittal schedule shall be kept current by the Contractor and submitted with the progress payment requests.
- A. For large files that cannot be uploaded through Unifier, contact Project Manager.

1.04 ELECTRONIC SUBMITTALS

- A. Before the initiation of the submittal process, coordinate and ensure that all submittals comply and follow the requirements of the DEN Building Information Modeling (BIM) Design Standards Manual (DSM) and the DEN BIM PXP.
- B. Submit request for progress payment applications utilizing TEXTURA software as instructed by DEN Project Manager.
- C. Submit Subcontractor's Contract information required by the City and County of Denver Small Business Office as instructed by DEN Project Manager.

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- D. Submit original electronic copies of all City and County of Denver Development Department/ Building Inspection Department Approved drawings including all approvals of Deferred Submittals; including but not limited to shoring plans, Fire Protection distribution plans, and structural shop drawings to DEN Project Manager as Informational Submittals. The lack of approval of the Denver Development Services on any document shall be basis for rejection of Work and non-compliance.
1. NOTE: Only original copies shall be accepted. Scans will not be accepted.
- E. Submit electronically scanned copies of all documents required by Chapter 17 “Special Inspection and Testing” of the International Building Code 2009 as amended by City and County of Denver 2011. Keep scale and clarify dimension where electronic copies are not as originally scaled and dimensioned.
- F. All submittals shall be delivered to the DEN Project Manager utilizing the Primavera Construction Manager program (PCM) as attachments and as separate file when files are too large to attach or of an electronic media that is not supported by PCM or Utilizing the EPPM Unifier software uploaded to the share drive Unifier's project site.
1. Acceptable electronic formats
- a. Print document format (pdf) shall have no security and bookmark every applicable submittal. All pages shall be completely legible and oriented to correct reading view.
 2. Formats are acceptable only with written permission of the DEN Project Manager or required by the BIM PXP. For files in any of the following formats, the corresponding stringency will apply:
 - a. Microsoft Office 2007 or newer. All files shall be fully compatible with Microsoft Office 2007.
 - 1) AutoCAD files shall be self-contained with no external x-references.
 - b. BIM files shall conform to the standards and formats outlined in the BIM PXP and DEN BIM DSM.
 - c. Portable Document Format (PDF) files shall be compatible with Adobe Acrobat 10.0, non-password-protected, and security-free.
 - d. Other files pre-approved by the DEN Project Manager.

1.05 INITIAL SUBMITTAL

- A. Each submittal document shall include a title block showing the following information:
1. Date of submittal and revision dates.
 2. Contract title and number.
 3. The names of Contractor, subcontractor, supplier, manufacturer and when applicable, the seal and signature of an Engineer registered in the State of Colorado, for the involved discipline.
 4. Identification of product by either description, model number, style number or lot number.
 5. Subject identification by Contract Drawing or specification reference.
- B. On each submitted drawing, include a blank space on each sheet, three inches by four inches, in the lower right corner, just above the title block, in which the DEN Project Manager or the Designer of Record may indicate the action taken.
- C. Make submissions sufficiently in advance so that the DEN Project Manager Review may be completed not less than 30 days before Work represented by those submittals is scheduled

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to be performed.

- D. Allow a minimum cycle of 30 days for review of each submittal by the DEN Project Manager.
- E. Submittal shall contain the following information:
 - 1. Contractor's name, address and telephone number.
 - 2. Submittal number and date.
 - 3. Contract title and number.
 - 4. Supplier's, manufacturer's, or subcontractor's name, address and telephone number.
 - 5. Identification of variations from Contract Documents.
 - 6. Contractor's stamp and signature certifying the Contractor's review.
 - 7. Identification of submittal:
 - a. If the submittal is being made on a General Condition or Special Condition, reference the General or Special Condition number the first two digits of the specification section shall be 00XXXX.
 - b. If the submittal is being made under a specification section, reference the specification number, paragraph number, and subparagraph number.
 - c. If the submittal is being made under a drawing, reference the drawing(s) number and sub-number.
- F. The Contractor shall describe, at the time of submission, variations from the Contract documents in writing, separate from the submittal document. If the DEN Project Manager approves any such variations, an appropriate Contract change order shall be issued, except that if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued. If a submission contains variations and the variation column is not marked on the transmittal form, it will not be considered for review and acceptance. Along with marking the transmittal as a variation, a description must be included which outlines all the differences including maintenance and utility services along with any cost savings from an item not containing the variation.
- G. Changes in accepted submittal documents will not be permitted unless those changes have been accepted, in writing, by the DEN Project Manager.
- H. The form and quality of submittal documents shall comply with Section 013325 "Shop and Working Drawings, Product Data, and Samples."

1.06 SUPPLEMENTAL SUBMITTALS

- A. Supplemental submittal documents initiated by the Contractor for consideration of corrective procedures shall contain sufficient data for review. Make supplemental submittals in the same manner as initial submittals with the appropriate primary transmittal referenced.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTRACTOR'S REVIEW

- A. The Contractor shall review all submittal documents, stamp, and sign as reviewed and approved as complying with Contract Documents prior to submission to the DEN Project

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Manager. Submittal documents that are submitted to the DEN Project Manager THAT HAVE NOT BEEN REVIEWED BY THE CONTRACTOR will not be reviewed and will be returned to the Contractor. Contractor is responsible for any delays in the Project due to improperly reviewed, stamped, and signed submittals.

- B. The Owner review period will be limited to ten (10) business days from the time complete submittal documents have been submitted.
- C. The Contractor is responsible to obtain all approvals for all deferred submittals, shop drawings, and significant changes from the CCD Development Service Department.
- D. All submittals must delineate any deviation from the intended design and must submit request for substitution to address any significant variation. Refer to Title 4, Article 405 – Shop Drawings, Product Data, and Samples, and Article 406 – Substitution of Materials and Equipment of the General Contract Conditions, 2011 Edition.

3.02 REVIEW BY DEN PROJECT MANAGER

- A. Submittal documents will be reviewed by the DEN Project Manager, the DEN Project Manager Team, and/or the DOR for conformance to requirements of the Contract Documents. Review of a separate item will not constitute review of an assembly in which the item functions. The DEN Project Manager will withhold approval of submittals that depend on other submittals not yet submitted. Review and acceptance will not relieve the Contractor from the Contractor's responsibility for accuracy of submittals, for compliance with all applicable regulations, for compliance with all codes and specifications, for conformity of submittal document to requirements of Contract Drawings and specifications, for compatibility of described product with contiguous products and the rest of the system, or for protection and completion of the Contract in accordance with the Contract Drawings and specifications. Acceptance is not verification or certification that the submittals comply with all requirements, nor does it guarantee approval by the Denver Building Department or Denver Fire Department.
- B. The City, the DOR, and/or the DEN Project Manager will review the submittal documents for general conformance with the Contract Documents and mark the Action Code, sign, and date the transmittal.
- C. The Action Codes have the following meanings:
 - 1. Accepted (ACC)
 - a. The submittal conforms to the respective requirements of the contract documents.
 - 2. Accepted as Noted (AAN)
 - a. The submittal conforms to the respective requirements of the Contract Documents after changes are made in accordance with reviewer's comments. AAN submittals do not need to be resubmitted.
 - 3. Revise and Resubmit (R&R)
 - a. The submittal is unacceptable and must be revised and resubmitted.
 - 4. Rejected (REJ)
 - a. The submittal is not approved and a new submittal in accordance with the Contract Documents must be prepared and submitted.
 - 5. For Information Only (FIO)
 - a. An item is received by the DEN Project Manager but is not reviewed.

3.03 CONTRACTOR'S RESPONSIBILITIES

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- A. Coordinate each submittal document with the requirements of the Work. Place particular emphasis upon ensuring that each submittal of one trade is compatible with other submittals of that trade and submittals of other trades including producing as needed drawings showing the relationship of the Work of different trades.
- B. Contractor's responsibility for errors and omissions in submittal documents and associated calculations is not relieved by the DEN Project Manager's review, correction, and acceptance of submittals.
- C. Contractor's liability to the City, in case of variations in the submittal document from the requirements of the Contract Documents, is not relieved by the DEN Project Manager's review and acceptance of submittals containing variations unless the DEN Project Manager expressly approves the deviation in writing, in which the DEN Project Manager describes the variation.
- D. The Contractor shall maintain a file of all approved submittal documents at the work site. The complete file of approved submittal documents shall be turned over to the DEN Project Manager with the as-built documents at the end of the job.
- E. Schedule impact due to resubmittal requirements is the responsibility of the Contractor.

3.04 MONETARY PENALTIES FOR LATE SUBMITTALS

- A. A Key Performance Indicator (KPI) is a way of measuring specific performance of the Contractor for which a target is stated in the KPI Schedule contained in Exhibit / Table (X). The KPIs for this section relate to the Contractor's performance with submitting documentation related to invoice submissions and proof of subcontractor / vendor payment, see Exhibit / Table (X).
- B. An assessment of the Contractor's performance against the KPIs is made monthly at the time of the Contractor's invoice submittal and request for payment. Reporting of performance and assessments are carried out in accordance with the provisions of this Article.
- C. As used in this clause and specification, the Moderated Amount represents the amount of Contractor's fee contained in each payment application.
- D. If the Contractor achieves a target stated for a Key Performance Indicator in respect of any assessment interval, they are entitled to be paid the allocated weighting set out in the KPI Schedule of the Moderated Amount, in respect of that monthly assessment interval ("Due Moderated Amount").
- E. The Moderated Amount and each Due Moderated Amount in respect of the first two assessment intervals following the Contract Date shall be paid as submitted and reviewed in order to allow the Contractor to become acquainted with the invoice submission process.
- F. Where the Contractor does not become entitled to be paid Due Moderated Amounts which in total equal the full amount of the Moderated Amount in respect of the relevant assessment interval, the Contractor still has the opportunity to earn the amount of the Moderated Amount to which they did not become entitled in respect of the relevant assessment interval (the "Shortfall"). The Contractor is entitled to be paid the proportion of the Shortfall relating to a particular target in respect of an assessment interval for a KPI if and when the Contractor achieves that target for the three consecutive assessment intervals immediately following the assessment interval in which the Shortfall occurred. If, a particular KPI ceases to be measured and there is fewer than three assessment intervals between a Shortfall arising as a result of the failure to meet the target for that Key

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Performance Indicator and the date on which it ceases to be measured, then the Contractor loses the opportunity to earn back the Shortfall.

- G. If the Contractor's obligation to perform is terminated for any reason, the Contractor is only entitled to be paid any amounts which had become due under the foregoing provisions of this clause prior to the date of termination.
- H. If there ceases to be five Key Performance Indicators, the percentage weighting in respect of each KPI shall be adjusted at the discretion of DEN.
- I. DEN may during each third assessment interval review the KPI regime described in this clause and in the KPI Schedule and, following such review, DEN may with the Contractor's agreement (not to be unreasonably withheld) amend any aspect of the KPI regime described in this clause and in the KPI Schedule (Exhibit / Table (X)). Should the Contractor withhold its agreement unreasonably it shall lose the opportunity to earn back any Shortfall.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013300

SECTION 013325

SHOP AND WORKING DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of preparing and submitting shop and working drawings, product data, samples, and record documents required by other specifications Sections.
 - 1. The Contractor shall submit all shop drawings, working drawings, product data, and samples, as defined in the General Conditions, to the DEN Project Manager in accordance with the requirements in the technical specifications. The DEN Project Manager will return one (1) copy of the shop drawings, working drawings and product data to the Contractor with a written transmittal.
- B. The Contractor shall not submit as shop drawings, copies or reproductions of drawings issued to the Contractor by DEN.
- C. Related Requirements
 - 1. Section 013300 "Submittal Procedures
 - 2. Section 012510 "Substitutions"
 - 3. Section 017720 "Contract Closeout"

1.03 SUBMITTALS

- A. All submittals shall be delivered to the DEN Project Manager in electronic format. All submittals must be of a consistent format (all PDF). No combination of electronic file types will be allowed unless required by a specific specification section.
 - 1. Acceptable electronic formats: Comply with the electronic file formats approved by DEN Building Information Modeling (BIM) Design Standards Manual If any of the files are in any of the formats listed below then the version of the software shall be no less than identified below:
 - a. Adobe Acrobat 8.0 or newer. All files shall be fully compatible with Adobe Acrobat 8.0.
 - b. Microsoft Office 2007 or newer. All files shall be fully compatible with Microsoft Office 2007.
 - c. AutoDesk AutoCAD 2007 or newer. All files shall be fully compatible with AutoDesk AutoCAD 2007.
 - 1) AutoCAD files shall be self-contained with no external x-references.
 - d. BIM format outlined in the BIM Project Execution Plan (PXP)
 - e. Other files pre-approved by the DEN Project Manager.
 - 2. Adobe Acrobat Requirements:
 - a. Drawings shall have security set to "No Security." Commenting, printing, adding

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- photos, form fields and document signing must be allowed.
- b. PDF submittals shall be one continuous file or Portfolio. No external links are allowed.
- c. All individual components of submittals shall be bookmarked inside the PDF file.
- d. All original documents shall be directly converted from the original electronic format to PDF. Scanning of files shall only be allowed by the DEN Project Manager when the original electronic information is not obtainable.
- e. Failure to comply with these requirements will result in a return of file to the Contractor for immediate revision.
- 3. Electronic files submitted shall correspond with DEN File Control Numbering System available from the DEN Project Manager.

B. Quantities

- 1. One (1) electronic submittal in Unifier containing electronic files of each shop or working drawing.
- 2. One (1) electronic submittal in Unifier containing electronic files of manufacturer's standard schematic drawings.
- 3. One (1) electronic submittal in Unifier containing electronic files of manufacturer's calculations and manufacturer's standard data.
- 4. One (1) electronic submittal in Unifier containing electronic files of manufacturer's printed installation, erection, application, and placing instructions.
- 5. Nine (9) samples of each item specified in the various specification sections, unless otherwise specified.
- 6. One electronic submittal in Unifier containing electronic files of inspection, test reports, and certificates of compliance.
- 7. Note: If manufacturer's printed information is in color, all copies of submittals must be in color.

C. Review:

- 1. Submittal review comments by the DEN Project Manager will be in electronic form and incorporated into the electronic submittal file.
- 2. Resubmittals of electronic documents shall modify the original electronic file with new information and include the DEN Project Manager's comments with appropriate responses and additional information.

1.04 CHANGES

- A. Changes in products for which shop or working drawings, product data or samples have been submitted will not be permitted unless those changes have been accepted and approved in writing by the Deputy Manager of Aviation as provided in Section 012510 "Substitutions."

1.05 QUALITY CONTROL

- A. Shop drawings and record documents shall be prepared to the standards of quality outlined in the specifications, DSM and BIM PXP, prepared and printed from Revit and checked in the spatial coordination format specified in the BIM PXP.
- B. Refer to DEN DFI DSM for other requirements that may be applicable to this Article.

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PART 2 - PRODUCTS

2.01 SHOP AND WORKING DRAWINGS

- A. Prepare shop and working drawings in an electronic format that is current and approved by DEN to a scale large enough to easily depict and annotate each of the various items.
- B. Comply per other BIM requirements for Shop and Working Drawings as established in the DEN BIM DSM.
- C. Include the following as they apply to the subject:
 - 1. Contract title, work order, and number.
 - 2. Respective Contract drawing numbers.
 - 3. Applicable specification section numbers.
 - 4. Relation to adjacent structure or materials.
 - 5. Field dimensions clearly identified as such.
 - 6. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO, and pertinent authority specifications or standards.
 - 7. Identification of deviations from the Contract Drawings and specifications.
 - 8. Drawing name, number, and revision.
 - 9. Contractor's stamp, initialed or signed, certifying:
 - a. Verification of field measurements.
 - b. Review of submittals for compliance with Contract requirements.
 - c. Compatibility of the Work shown thereon with that of affected trades.
 - 10. Blank space on each sheet per Technical Specifications Section 013300 "Submittal Procedures."
- D. Drawings of equipment and other items that contain multiple parts shall include exploded views showing the relationship of parts and the description of the parts into the smallest units that may be purchased or serviced.
- E. Comply with all submittal requirements of Section 013300 "Submittal Procedures."

2.02 PRODUCT DATA

- A. Modify manufacturer's standard and/or schematic drawings to delete information that is not applicable to the Contract. Supplement standard information with additional information applicable to this Contract.
- B. Modify manufacturer's standard(s), diagrams, schedules, performance charts, illustrations, calculations, and other descriptive data to delete information that is not applicable to the Contract. Indicate dimensions, clearances, performance characteristics, and capacities. Include with the submittal electrical, plumbing, HVAC, and any other diagrams, as applicable.
- C. Modify erection, application, and placing instructions to delete information that is not applicable to the Contract or work order.
- D. Include the following:

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1. Contract title, work order, and number.
 2. Respective Contract drawing numbers.
 3. Applicable Contract technical specification section numbers.
 4. Applicable standards such as ASTM or Federal Specification number, FAA, AASHTO and pertinent authority specifications or standards.
 5. Identification of deviations from the Contract Drawings and specifications.
 6. Contractor's stamp, initialed or signed, certifying:
 - a. Dimensional compatibility of the product with the space in which it is intended to be used.
 - b. Review of submittals for compliance with Contract requirements.
 - c. Compatibility of the product with other products with which it is to perform or which will be next to it.
 - d. The products electrical, plumbing, control and HVAC requirements conform to Contract Documents and the necessary utilities are provided for in the Contract Documents.
- E. Comply with all submittal requirements of Section 013300 "Submittal Procedures."

2.03 SAMPLES

- A. Submit samples of sizes and quantities to clearly illustrate full color range and functional characteristics of products and materials including attachment devices.
- B. Erect field samples and mockups at the work site as specified in specification Sections and at locations acceptable to the DEN Project Manager. All field samples shall be erected in a location that will be readily visible throughout the life of the Contract to allow comparison of the Work as it progresses to the field sample. Field samples and mockups may be incorporated into the Work at Contractor's risk if approved by DEN Project Manager.
- C. The Contractor shall verify, through appropriate inspections and tests, that the samples submitted meet the specifications and shall provide inspection and test data with the samples. The review and comments on the sample shall not relieve the Contractor of the Contractor's responsibility for completion of the Contract.
- D. Show the following information:
 1. Contract title and number.
 2. Respective Contract drawing numbers.
 3. Applicable technical specification section numbers.
 4. Applicable standards such as ASTM or Federal Specification number.
 5. Identification of deviations from the Contract Drawings and specifications
 6. Contractor's stamp, initialed or signed, certifying:
 - a. Dimensional compatibility of the product with the space in which it is intended to be used
 - b. Review of submittals for compliance with Contract requirements
 - c. Compatibility of the product with other products with which it is to perform or which will be next to it
 7. If multiple samples are submitted and the DEN Project Manager is requested to make a choice, each sample shall have a unique identification number attached to it so the

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returned transmittal can state the identification number of the accepted sample and the Contractor will know which one it is.

- E. Comply with all submittal requirements of Section 013300 "Submittal Procedures."

PART 3 - EXECUTION

3.01 CONTRACTOR RESPONSIBILITIES

- A. Verify field measurements, catalog numbers, and similar data.
- B. The Contractor shall not start work for which submittals are required until a transmittal has been received by the Contractor marked with the Action Code ACCEPTED or ACCEPTED AS NOTED by the DEN Project Manager.
- C. Before making submittals, ensure that the products will be available in the quantities and at the times required by the Contract.
- D. Submit final, corrected, electronic copies of Contract and shop and working drawings showing the Work as actually installed, placed, erected, and applied. Refer to Section 017720 "Contract Closeout."

3.02 REVIEW BY THE DEN PROJECT MANAGER

- A. One (1) electronic copy of the marked-up shop and working drawing and one (1) electronic copy of the product data will be returned to the Contractor by the DEN Project Manager. Only the transmittal form appropriately marked with the Action Code and comments, if any, will be returned on sample submittals.
- B. Contractor's responsibility for errors and omissions in submittals for compatibility will not be reduced, waived or otherwise limited by the review and acceptance of submittals by the DEN Project Manager. Review and acceptance will not relieve the Contractor from the Contractor's responsibility for accuracy of shop drawings, for compliance with all codes and specifications, for conformity to requirements of Contract Drawings and specifications, for compatibility of products with contiguous products and the rest of the system, or for protection and completion of the Contract in accordance with the Contract Drawings and specifications. Approval is not verification or certification that the shop drawings comply with all requirements nor does it guarantee approval by the Denver Building Department or Denver Fire Department.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

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END OF SECTION 013325

SECTION 013510 - CONSTRUCTION SAFETY

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. For Airside Construction Projects Related Specification Sections include:
 - 1. Section 011430 "Vehicle and Equipment Permitting".
 - 2. Section 011810 "Utilities Interface".

1.02 SUMMARY

- A. Work specified in this Section includes construction safety precautions and programs by the Contractor and the basis for reviews by the DEN Project Manager.
- B. For projects enrolled under a DEN Owner Controlled Insurance Program (OCIP) or Rolling Owner Controlled Insurance Program (ROCIP) reference the Contract Special Conditions and applicable DEN OCIP or ROCIP Safety Manual, included as Contract Documents, for additional safety requirements.
- C. For projects not enrolled under a DEN Owner Controlled Insurance Program (OCIP) or DEN Rolling Owner Controlled Insurance Program (ROCIP) reference the Contract Special Conditions for all safety requirements.

1.03 RESPONSIBILITY

- A. The Contractor is responsible for the health and safety of the Contractor's personnel, agents, subcontractors and their personnel, and other persons on the worksite, for the protection and preservation of the Work and all materials and equipment to be incorporated therein, and for the worksite and the area surrounding the worksite. The Contractor shall take all necessary and reasonable precautions and actions to protect all such persons and property.
- B. This Section shall be interpreted in its broadest sense for the protection of persons and property by the Contractor and no action or omission by the DEN Project Manager or the DEN Project Manager's authorized representatives shall relieve the Contractor of any of its obligations and duties hereunder.

1.04 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for the submittal process.
- B. Contractor's Site Specific Safety Plan:
 - 1. The Contractor's Site Specific Safety Plan shall be submitted and accepted as provided in the Contract prior to commencing any Work. If a Task Order or Change Order is issued where the Work is not covered by the Contractor's Site Specific Safety Plan, then a revision to the Safety Plan specific for the Work in the Task Order shall be resubmitted for approval. The Contractor's Safety Plan must meet requirements as outlined in the Contract. The Contractor should reference the applicable insurance

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<p>requirements, including any Safety Manual and updates, and all applicable federal, state, and local laws and regulations. Additionally, for Airside Projects, the Contractor's Site Specific Safety Plan shall be developed according to the guidelines and requirements provided in the most current version of FAA Advisory (AC) 150/5370 "Operational Safety on Airports During Construction" and will describe how the Contractor will comply with the requirements of the Construction Safety and Phasing Plan (CSPP). The Site Specific Safety Plan shall cover the actions of not only the construction personnel and equipment, but the actions of inspection personnel and airport staff for the duration of construction activities.</p>	
<p>2. No progress payment shall be approved until the Contractor's Site Specific Safety Plan has been accepted by the DEN Project Manager.</p>	
<p>3. For projects enrolled in a ROCIP or OCIP, Contractor shall submit their Site Specific Safety Plan in accordance with the requirements and lead time outlined in the applicable R/OCIP Safety Manual and in accordance with Part 1.04.A of this Section.</p>	
<p>4. For a project non enrolled in a ROCIP or OCIP, the Contractor shall submit the Contractor's Site Specific Safety Plan to the DEN Project Manager for review at least ten (10) calendar days before on-site construction begins. At a minimum, all applicable federal, state and local government requirements, and the following are to be included in the Contractor Site Specific Safety Plan:</p>	
<p>5. The Contractor shall provide the following information for acceptance by the DEN Project Manager prior to the commencement of construction activities. The Site Specific Safety Plan must address all aspects listed below. If an item is not applicable, then this must be noted in the plan.</p>	
<p>a. Name of the Contractor's safety representative.</p>	
<p>b. If the Contractor is running multiple shifts or working more than (40) hours per week, the name of an assistant safety representative who can act in the absence of the site safety representative.</p>	
<p>c. Twenty-four (24) hours per day emergency phone numbers of Contractor site management to be used in case of injury or accident. Provide at least four contacts.</p>	
<p>d. How personnel will be handled who are unable to safely perform their duties, including how the Contractor will determine whether personnel are unable to safely perform duties. This may include the Contractor's disciplinary process and employee's physical capabilities to perform the work safely.</p>	
<p>e. Injury and accident handling, including samples of the reporting form.</p>	
<p>f. The type of safety training that will be provided to personnel to inform them of safe work procedures.</p>	
<p>g. How daily audits and inspections will be performed to ensure compliance with the Contractor's Site Specific Safety Plan and current, applicable OSHA regulations.</p>	
<p>h. Means of protecting employees working in trenches and excavations, including sloping and shielding.</p>	
<p>1) Soil classification will be considered as Type C when designing protective systems, unless the Contractor can prove to the satisfaction of DEN that the soil classification is otherwise. Soil classification change request shall be provided to the DEN Project Manager in writing. The decision of the DEN Project Manager will be provided to the Contractor in writing.</p>	
<p>2) The Contractor shall show how material shall be stored beside the excavation. Stored material shall include the excavated and backfilled material.</p>	
<p>i. How and when equipment will be checked to see that it is safe, that all safety guards are in place, and that the equipment is being used for its designed purpose and within its rated capacity.</p>	
<p>j. How and when all electric devices will be checked for proper grounding and</p>	

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- insulation. Describe the methods that will be used for lock out tag out of electric systems that should not be energized.
- k. How trash and human organic waste will be disposed of.
 - l. How snow and ice will be removed by the Contractor in the project area.
 - m. How flammable materials will be stored and handled, and how any spills will be cleaned up and removed for disposal.
 - n. What system will be used to prevent fires and, if fires do occur, who will be trained to fight them. In addition, what firefighting equipment will the Contractor have available and how will this equipment's condition be monitored.
 - o. How materials will be received, unloaded, stored, moved, and disposed of.
 - p. How personnel will be protected from falling when working at heights of 6 feet or more.
 - q. How people working beneath the construction work will be protected.
 - r. What will be done to protect personnel in case of severe weather.
 - s. How adequate lighting will be provided and monitored.
 - t. How air quality will be monitored to ensure that chemical exposures are below current, established OSHA Permissible Exposure Limits. How personnel will be protected if these limits are exceeded.
 - u. How the safety of work platforms, man lifts, material lifts, ladders, shoring, scaffolding, etc., will be ensured relating to load capacity and the protection of personnel using or working around them.
 - v. Where cranes will be set up and plans for each lift.
 - w. The type of personal protective equipment that will be used to protect personnel from hazards. The minimum PPE requirements include hard hat, safety toe boots, safety glasses, proper hand protection, ANSI II vests for day work, and ANSI III vests and high visibility pants (gaiters may only be used airside) for night work.
 - x. Procedures to ensure that welding and other hot work is performed safely.
 - 1) A hot work permit from the Denver Fire Department (DFD) will be required for all welding, soldering, cutting, and brazing and or other processes required by DFD on the project. Contractor will comply with all of the provisions in the permit.
 - y. How compressed gases will be safely stored, handled, and used.
 - z. Methods to ensure that personnel safely enter, work in, and exit confined spaces.
 - 1) All confined spaces on DEN property are considered permit required. A permit must be obtained from the DFD before Contractor personnel may enter a confined space. Contractors will comply with all provisions and requirements of this permit.
 - aa. How the hazards of chemicals will be communicated to personnel, including the use of material safety data sheets and chemical labels.
 - bb. Methods to ensure that forklifts and other powered industrial trucks are operated in a safe manner.
 - cc. How an effective hearing conservation program will be used to protect personnel from high noise levels and prevent hearing loss.
 - dd. How personnel will be protected from the effects of jet blast.
 - ee. How hazards will be identified and corrected when reported.

C. Safety submittal requirements

- 1. For projects enrolled in a ROCIP or OCIP, Contractor shall submit all required safety submittals required by the Contract Documents, including the applicable ROCIP or OCIP Safety Manual including, but not limited to, high-hazard pre-task plans, subcontractor pre-mobilization meetings, and incident reports. All Safety Submittals

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shall be submitted in accordance with Part 1.4.A of this Section unless otherwise modified by the Contract Documents. Contractor is responsible for reviewing the ROCIP or OCIP Safety Manual in its entirety and understanding full scope, timeline, and acceptance criteria outlined for the submittal requirements

D. Additional safety submittals – ROCIP IV

1. The following is a representative list of submittals, other than the Site-Specific Safety Plan, that are required for relevant scopes of work or events covered under ROCIP IV. This list is not all-inclusive and Contractor is responsible for reviewing the ROCIP IV Safety Manual its entirety to determine if additional submittals are required for Contractor's scope of work. In addition, DEN may require additional safety pre-planning or pre-work meetings or information based on Contractor's scope of work and safety performance:
2. High-hazard Pre-Task Plans including:
 - a. Crane Operation
 - b. Elevated Work
 - c. Lock-Out Tag-Out
 - d. Utility Damage Prevention- Ground & Concrete Penetration
 - e. Trenching
 - f. Confined Space
 - g. Demolition
 - h. Hot Work
 - i. Traffic Control
 - j. Haul Routes
 - k. Silica Exposure and Slurry Control Program
 - l. Respiratory Protection Program
3. Subcontractor Safety Pre-Mobilization Documentation
4. Preliminary Investigative Reports
5. Final Investigative Reports
6. Contractor's Monthly Safety Report
7. Meeting Minutes and Attendance Log for Contractor's Supervisory Safety Meetings

1.05 DEN PROJECT MANAGER'S REVIEW

- A. Prior to the start of any work by contractor or subcontractor personnel, the Contractor shall provide the DEN Project Manager with a list of its personnel, subcontractor's personnel and other personnel the Contractor has requested to work at Denver International Airport, who have signified in writing that they have been briefed on, or have read and understand, the Contractor's Site Specific Safety Plan.

1.06 AUDIT OF MANUAL COMPLIANCE

- A. At its sole discretion, DEN may audit Contractor's submittals, including supporting documents that the contractor or its subcontractor is required to maintain or that would show compliance with the requirements of this Safety Manual. When documentation is requested, the Contractor must respond in the time outlined in the applicable ROCIP or OCIP Safety Manual, and where a timeline is not established, in no more than 7 days.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 IMPLEMENT CONTRACTOR'S SITE SPECIFIC SAFETY PLAN

- A. Implement the approved Contractor's Site-Specific Safety Plan and other project safety plans as described in Part 1 of this Section, applicable Contract Safety Manual, all applicable regulations, Contract Documents, and in Section 011100 "Summary of Work."
- B. If the Project or an individual contractor or subcontractor experiences an OSHA DART or Total Recordable injury rate greater than 75 percent of the national average for all construction, the Contractor shall notify the DEN Project Manager and audit its safety procedures and submit a plan to reduce its rate(s).
- C. If at any time the OSHA DART or Total Recordable injury rates experienced by the Project or an individual contractor or subcontractor are 150 percent or more of the national average for construction, or exceeds \$0.50/labor hour, the Contractor shall notify the DEN Project Manager and immediately hire an independent safety professional at their own cost who shall audit the Contractor's procedures and operations and make a report of changes that the Contractor should implement to reduce the rate(s) including possible personnel changes.
 - 1. The report shall be submitted to the DEN Project Manager.
 - 2. The Contractor shall immediately begin implementing the recommendations of the independent safety professional.
 - 3. A weekly report shall be submitted by the Contractor to the DEN Project Manager on the status of the implementation of the recommendations.
 - 4. Failure to comply with these requirements is a basis to withhold a portion of progress payments or to terminate the Contract.

3.02 SAFETY REQUIREMENTS FOR ALL CONSTRUCTION PROJECTS

- A. For projects enrolled in a ROCIP or OCIP, Contractor will abide by all requirements specified in the Contract Documents, including the applicable ROCIP or OCIP Safety Manual. The applicable ROCIP or OCIP Safety Manual is incorporated in this Technical Specification for all enrolled projects.
- B. Contractor personnel, airport staff and field inspectors directly involved in DEN construction shall:
 - 1. Be aware of the types of conditions, safety problems, and/or hazards identified each day at the airport. To ensure that all personnel are aware, daily meetings between management and supervisory personnel and their employees shall be scheduled prior to any work commencing on the shift.
 - 2. Inspect daily all work and/or storage areas for which the Contractor is responsible to be aware of current conditions.
 - 3. Promptly take all steps needed to remedy any unsafe or potentially unsafe condition. Coordinate with the DEN Project Manager to ensure immediate corrective action is undertaken.
- C. Housekeeping Requirements
 - 1. Maintain the work site in a neat, orderly, and hazard-free manner in conformance with all federal, state, and local rules, codes, regulations, and orders, including all OSHA requirements, until Final Acceptance of the Work. Keep catwalks, underground structures, work site walks, sidewalks, roadways, and streets, along with public and

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private walkways adjacent to the work site, free from hazards caused by construction activities. All hard concrete, steel, wood, and finished walking surfaces shall be swept clean daily.

2. Inspect those facilities regularly for hazardous conditions caused by construction activities. Maintain structures, grounds, storage areas and other areas of work site, including public and private properties immediately adjacent to work site, free from accumulations of waste materials caused by construction operations. Place waste materials in covered metal containers. Remove or secure loose material on open decks and on other exposed surfaces at the end of each workday or more often in a manner that will maintain the work site hazard free. Secure material in a manner that will prevent dislodgment by wind and other forces.
3. Sprinkle waste materials with water or acceptable chemical palliative to prevent blowing of dust.
4. Promptly empty waste containers when they become full and legally dispose of the contents at dumping areas off the City's property.
5. Control the handling of waste materials. Do not permit materials to be dropped or thrown from structures.
6. Immediately remove spillage of construction related materials from haul routes, work site, private property, public rights of way, or on the Denver International Airport site.

D. Hazardous Material Controls

1. Store waste materials in properly labeled waste containers. This includes solid wastes, hazardous wastes, universal wastes, etc.
2. Store volatile wastes in covered metal containers and remove those wastes from work site daily.
3. Do not accumulate wastes that create hazardous conditions.
4. If volatile and noxious substances are being used in spaces that are not naturally ventilated adequately, provide artificial ventilation.
5. Hazard controls shall conform to the applicable federal, state, and local rules and regulations.
6. Provide appropriate waste receptacles in all areas in which employees are working. Waste receptacles shall be kept covered at all times. All materials on site shall be anchored and covered to prevent any objects from becoming wind-borne.

E. Safe Access

1. Maintain the work site to permit access by other City contractors as required and to allow access by emergency personnel.

F. Aviation safety and continuity of operations is a primary consideration during construction at DEN. Activities shall be planned and scheduled to minimize disruption of normal aircraft and operation activities, including minimizing impacts to vehicular traffic. If the clearances and restrictions described in this plan cannot be maintained while construction is underway, action will be taken by the Contractor to perform Work at night or during periods of minimal aircraft or operational activity.

1. During performance of this Contract, the airport runways, taxiways, taxi lanes, and aircraft parking aprons shall remain in use by aircraft to the maximum extent possible, consistent with continual safety. Aircraft use of areas near the Contractor's Work will be controlled to minimize disturbance to the Contractor's operation. However, AIRCRAFT HAVE THE RIGHT OF WAY AT ALL TIMES. The Contractor shall not allow employees, subcontractors, suppliers, or any unauthorized persons to enter or

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- remain in any airport area that would be hazardous to persons or to aircraft operations.
2. Before commencement of construction activity, the Contractor, through coordination with the DEN Project Manager and DEN Operations, shall give notice using the NOTAM system of construction on the airfield. In addition, a NOTAM shall be issued for the completion of construction on the airfield.
- G. The Contractor shall take all necessary steps and precautions to mitigate the impact of hazardous conditions as they may relate to the Work. Potentially hazardous conditions which may occur during airport construction include, but are not limited to, the following:
1. Trenches, holes, or excavations on or adjacent to any active runway, taxiway, taxi lane, apron, or related safety areas.
 2. Unmarked/unlighted holes or excavations on or adjacent to any active runway, taxiway, taxi lane, apron, or related safety areas.
 3. Mounds or piles of earth, construction material, temporary structures, or other objects on or in the vicinity of any active runway, taxiway, taxi lane, apron or related safety, approach, or departure areas.
 4. Pavement drop-offs that would cause, if crossed at normal operating speeds, damage to aircraft that normally use the airport. The maximum drop-off is 3 inches per the most current version of FAA AC 150/5300.
 5. Vehicles or equipment (whether operating or idle) on any active runway, taxiway, taxi lane, apron or related safety, approach, or departure areas.
 6. Vehicles, equipment, excavations, stockpiles, or other materials that could impinge upon NAVAID-critical areas and degrade or otherwise interfere with electronic NAVAIDS or interfere with visual NAVAIDS facilities.
 7. Unmarked utility, NAVAIDS, weather service, runway lighting, underground power, or signal cables that could be damaged during construction.
 8. Objects or activities anywhere on or in the vicinity of an airport which would be distracting, confusing, or alarming to pilots during aircraft operations.
 9. Unflagged/unlighted low visibility items such as tall cranes, backhoes, scrapers, dump trucks, rollers, compactors, dozers and the ilk, in the vicinity of an active runway, taxiway, taxi lane, apron or related safety, approach, or departure areas.
 10. Dirt, debris, or other transient accumulations that temporarily obscure pavement markings or pavement edges or derogate the visibility of runway or taxiway markings or lighting or of construction and maintenance areas.
 11. Trash or other materials with foreign object damage (FOD) potential, whether on runways, taxiways, taxi lanes, aprons or in related safety areas.
 12. Failure to control vehicle, human and large animal access to, and nonessential nonaeronautical activities on, open aircraft movement areas.
 13. Failure to maintain radio communication between construction vehicles and air traffic control or other on-field communications facilities.
 14. Construction activities or material which could hamper Aircraft Rescue and Fire Fighting (ARFF) vehicle access from ARFF stations to all parts of the runway/taxiway system, runway approach and departure areas, or aircraft parking locations.
 15. Inadequate fencing or other marking to separate construction areas from open aircraft operating areas.
 16. Bird attractions such as edibles (food scraps, etc.), trees, brush, other trash, grass/crop seeding, or ponded water on or near the airport.

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- H. Construction Area Marking: Temporary lighting, barricades, flagging, and flashers are required as shown on the plans and per the most current version of FAA AC 150/5370 Chapter 2 Section 220.b.(1)(2) Flag lines, traffic cones, flashers, edge lights, and/or signs shall be used as necessary:
1. To clearly separate all construction from other parts of an air operations area
 2. To identify isolated hazards, such as open manholes, excavations, areas under repair, stockpiled material, waste areas, etc.
 3. Vehicle and pedestrian access routes used for airport construction shall be controlled to prevent any unauthorized entry of persons, vehicles, or animals.
 4. Vehicle parking areas for Contractor employees shall be designated in advance to minimize traffic in open/active aircraft movement areas.
- I. Cables and Utilities:
1. Special attention shall be given to preventing unscheduled interruption of utility services and facilities. The location of all cables and utilities shall be identified prior to construction activities. In addition to following regulatory utility locate requirements, Contractor shall provide a 3rd party SUE or utility designation firm to perform a ground penetrating radar (GPR) sweep in all areas that will be excavated, or the ground penetrated, prior to work.
 2. There shall be coordination among the Contractor, the DEN Project Manager, DEN Operations, the FAA, the National Weather Service, utility companies, and any other appropriate entity or organization. NAVAIDS, weather service facilities, electric cables, and other utilities must be fully protected during the entire construction time.
 3. Power, communication, and control cables leading to and from any FAA NAVAIDS, weather service, and other facilities will be marked in the field by the appropriate individuals as identified in Section 011810 "Utilities Interface" for the information of the Contractor before any work in their general vicinity is started. Thereafter, through the entire duration of construction, utilities shall be protected from any possible damage.
 4. At the intersection of expansion joints and centerline lighting circuits on taxiways and runways, the electrical conduit may be within the 21" portion of the Portland cement concrete pavement. Coordination with the DEN Project Manager's representative and the DEN Electrical Department is required for both the scheduling of an outage and the removal of conductors while cutting the joint.
- J. Employee Identification:
1. The Contractor will be required to conform to the specific requirements as outlined in Section 011420 "Security Requirements and Sensitive Security Information (SSI)" of the Contract documents.
- K. Radio Communications:
1. The Contractor's construction superintendent and flagger personnel shall be required to coordinate directly with the DEN Project Manager or designated Representative. Only the DEN Project Manager or designated Representative shall monitor transceiver radios tuned to the frequency for communications with DEN Operations and B Tower Control. Radios shall be used to obtain the proper clearance concerning the movement of equipment, trucks, etc., on the airfield. Further, any unusual occurrences in the flight pattern of approaching or departing aircraft shall be acknowledged by all concerned so that operation of the airport and the construction work can be carried out safely.
- L. Haul Routes Crossing Active Aircraft Operation Areas:

- 1. The Contractor shall provide a minimum of one (1) broom truck to continuously clean the surface of the active taxiway, taxi lane or apron of any foreign object debris (FOD) or other objectionable debris that may result from hauling activities. Additional broom trucks may be required to expedite the cleanup process. Opening the taxiway, taxi lane, or apron to aircraft operations shall only be approved after a visual inspection of the pavement surface by the DEN Airfield Operations Manager.
- 2. The Contractor shall not work within the minimum of the following: 160 ft. of the centerline of an active taxiway, 310 ft. of the centerline of an active runway, or the minimum requirements of the FOD or Safety Zone unless otherwise noted in the Contract Documents and as approved in writing by the DEN Project Manager.
- 3. All construction equipment and vehicles shall be flagged for high daytime visibility and if appropriate, lighted for nighttime operations. Vehicles that are not marked and lighted shall be escorted by a vehicle that is equipped with appropriate marking and lighting devices. Marking and lighting shall be in conformance with FAA AC 150/5210, current edition, or as outlined in Section 011430 "Vehicle and Equipment Permitting" of the Contract Documents.
- 4. All Contractor and Subcontractor employees must be aware of the types of safety problems and hazards associated with aircraft operations and construction activities. All haul truck drivers must have current route maps with them in their vehicles.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013510

SECTION 013516**ALTERATION PROJECT PROCEDURES****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes special procedures for alteration work.

1.03 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the DOR's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by DOR.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.04 COORDINATION

- A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and

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scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.

1. Schedule construction operations in sequence required to obtain best Work results.
 2. Coordinate sequence of alteration work activities to accommodate the following:
 - a. Owner's continuing occupancy of portions of existing building.
 - b. Owner's partial occupancy of completed Work.
 - c. Other known work in progress.
 - d. Tests and inspections.
 3. Detail sequence of alteration work, with start and end dates.
 4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
 5. Use of elevator and stairs.
 6. Equipment Data: List gross loaded weight, axle-load distribution, and wheelbase dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.
- B. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project buildings and site. Some work is near circulation patterns [and adjacent to restricted areas] <Insert item of concern>. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work.[Access to restricted areas may not be obstructed.] Plan and execute the Work accordingly.

1.05 PROJECT MEETINGS FOR ALTERATION WORK

- A. Preliminary Meeting for Alteration Work: Before starting alteration work, DEN Project Manager will conduct meeting at Project Site.
1. Attendees: In addition to representatives of City, DEN Project Manager, DOR, and Contractor, a testing service representative and specialists shall be represented at the meeting.
 2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
 - a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
 - b. Fire-prevention plan.
 - c. Governing regulations.
 - d. Areas where existing construction is to remain and the required protection.
 - e. Hauling routes.
 - f. Sequence of alteration work operations.
 - g. Storage, protection, and accounting for salvaged and specially fabricated items.
 - h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
 - i. Qualifications of personnel assigned to alteration work and assigned duties.
 - j. Requirements for extent and quality of work, tolerances, and required clearances.
 - k. Embedded work such as flashings and lintels, special details, collection of waste,

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protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.

3. Reporting: DEN Project Manager will record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from meeting.
- B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation meeting.
1. Attendees: In addition to representatives of the City, DEN Project Manager, DOR, and Contractor, each specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at meeting shall be familiar with Project and authorized to conclude matters relating to alteration work.
 2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.
 - a. Alteration Work Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
 - b. Schedule Updating: Revise Contractor's Alteration Work Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
 - c. Review present and future needs of each entity present, including review items listed in the "Preliminary Meeting for Alteration Work" Paragraph in this article and the following:
 - 1) Interface requirements of alteration work with other Project Work.
 - 2) Status of submittals for alteration work.
 - 3) Access to alteration work locations.
 - 4) Effectiveness of fire-prevention plan.
 - 5) Quality and work standards of alteration work.
 - 6) Change Orders for alteration work.
 3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.06 INFORMATIONAL SUBMITTALS

- A. Alteration Work Subschedule:
 1. Submit alteration work subschedule within seven (7) days of date established for commencement of alteration work.
- B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.
- C. Alteration Work Program: Submit 14 days before work begins.
- D. Fire-Prevention Plan: Submit 14 days before work begins.

1.07 QUALITY ASSURANCE

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- A. Specialist Qualifications: An experienced firm regularly engaged in specialty work similar in nature, materials, design, and extent to alteration work as specified in each Section and that has completed a minimum of five recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.
 - 1. Field Supervisor Qualifications: Full-time supervisors experienced in specialty work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on-site when specialty work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.
- B. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- C. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
 - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
 - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- D. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with City's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- E. Safety and Health Standard: Comply with the current version of the ANSI/ASSE Safety and Health Program Requirements for Demolition Operations

1.08 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
 - 1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
 - 2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
 - 3. Store items in a secure area until delivery to specified location.
 - 4. Transport items to the designated storage area .
 - 5. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
 - 1. Repair and clean items for reuse as indicated.
 - 2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
 - 3. Protect items from damage during transport and storage.

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- 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by DOR, items may be dismantled and taken to an approved, suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.
- D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.
 - 1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
 - 2. Secure stored materials to protect from theft.
 - 3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5°F or more above the dew point.
- E. Storage Space:
 - 1. DEN Project Manager will arrange for limited on-site locations for free storage of salvaged material. This storage space does not include security and climate control for stored material.
 - 2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

1.09 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of measured drawings and preconstruction photographs.
 - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
- B. Discrepancies: Notify DEN Project Manager of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.
- C. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
 - 1. Use only proven protection methods, appropriate to each area and surface being protected.

- 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
 - 5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
 - 6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 - 7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
 - 8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.
- B. Temporary Protection of Materials to Remain:
- 1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
 - 2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:
- 1. Notify DEN Project Manager, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
 - 2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
 - 3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
- E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify DEN Project Manager immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.
- 1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
 - 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.02 PROTECTION FROM FIRE

- A. General: Follow fire-prevention plan and the following:
- 1. Comply with NFPA 241, Standard for Safeguarding Construction, Alteration, and Demolition Operations requirements unless otherwise indicated.
 - 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and

chemicals, unless necessary for the immediate work.

- a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
 - 1. Obtain City's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify DEN Project Manager at least 72 hours before each occurrence, indicating location of such work.
 - 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
 - 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 - 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
 - 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 - 6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
 - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
 - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
 - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
 - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
 - e. Maintain fire-watch personnel at each area of Project site until 60 minutes after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire extinguisher and blanket use.
- D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.
 - 1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.03 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and

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adhesives.

- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off City's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.04 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs. Comply with requirements in Section 013233 "Photographic Documentation."
- D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- E. Notify DEN Project Manager of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by DEN Project Manager.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 013516

SECTION 014100

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section identifies primary compliance with the State's and the City and County of Denver's regulatory requirements including but not limited to:
 - 1. City and County of Denver applicable agencies, including but not limited to its Department of Aviation, Community Planning and Development (including Building Department), Department of Transportation and Infrastructure, and Mayor's Executive Orders.
 - 2. Colorado Department of Public Health and Environment; and
 - 3. The standards that govern design and construction projects at Denver International Airport; and
 - 4. Any other regulatory requirements that govern or apply to the specific work.
- B. Construction shall be based on the latest edition of the referenced codes including additions and revisions thereto that are in effect at the time of Project bidding or Task Order pricing or GMP established whichever is latest, and as specifically related.

1.03 RELATED SECTIONS

- A. Section 015719 "Temporary Environmental Controls" for environmental and related permitting requirements.

1.04 BUILDING CODE

- A. All design and construction work shall be governed by the Building Code for the City and County of Denver, latest edition. This is based upon the International Building Code of the International Code Council with Denver Amendments to this code. Appendix N of the Denver Amendments addresses Construction of Airport Buildings and Structures.
 - 1. This Contract shall be based on the most current published version of the ICC series as Amended by The City and County of Denver.

1.05 DENVER BUILDING DEPARTMENT

- A. For review and approval of all construction documents for compliance to the Denver building code:

Community Planning and Development
201 W. Colfax Ave., Dept 205
Denver, CO 80202
Telephone: 720-865-2790

1.06 DENVER FIRE DEPARTMENT

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- A. For review and approval of plans for compliance with the Denver Fire Department's requirements as they apply to the Denver International Airport:
 Denver Fire Department
 725 West Colfax Avenue
 Denver, CO 80204
 Telephone: 720-913-3474
- B. The Contractor is advised that the Denver Fire Department – Fire Prevention Bureau requires permitting for the following activities as they apply to the scope of work. The Contractor is responsible for obtaining the appropriate permits necessary to complete the work including, but not limited to, the work listed below. All costs associated with this permitting and policy compliance shall be the responsibility of the Contractor. The policies all reference the International Fire Code (IFC).
1. "Hot work", which is defined as the operation of any equipment or tool that creates sparks, hot slag, or radiant or convective heat as a result of the work. This includes, but is not limited to, welding, cutting, brazing, or soldering.
 2. Use and storage of compressed gas for both temporary storage and permanent facility installation. This includes, but is not limited to, flammable gas (excluding propane-LPG), oxidizer (including oxygen), and inert and/or simple asphyxiates.
 3. Tank installation, which includes aboveground storage tanks (AST) and underground storage tanks (UST) for both temporary tanks and permanent facility installations.
 4. Access to and work within areas that are designated as confined spaces.
- C. In addition to the above permits, the Denver Fire Department may require other permits that are associated with the specific work in the Contract Documents. Policies provided by the Denver Fire Department are meant to provide basic information for the most common conditions and situations. In any given occupancy, many other Uniform Fire Code requirements may be enforced. These should be addressed with the Denver Fire Department before construction begins and during construction with premise inspection(s).
1. The Fire Prevention Bureau web site is denfpb@denvergov.org

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PERMITS AND CERTIFICATIONS

- A. The Contractor shall maintain records on site of all permits acquired by federal, state, and local agencies. Posting of permits shall conform to requirements of the respective agencies.
- B. At the completion of any inspection by other agencies, the Contractor shall forward copies of the status of the inspection and copies of any approved or "signed-off" inspections by the respective agencies to the DEN Project Manager.
- C. At the time of request for Substantial Completion, the Contractor shall forward to the DEN Project Manager all permits approved by the respective agencies.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014100

SECTION 014210

REFERENCED MATERIAL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 REFERENCED MATERIAL

- A. City and County of Denver, Department of Aviation, Standard Specification for Construction, General Contract Conditions
- B. The following documents may be available for examination at the Owner's offices unless otherwise noted. The referenced material and documents are not part of the Contract Documents unless otherwise specified.
 - 1. Environmental Impact Statement (EIS).
 - 2. Geotechnical Reports:
 - a. Borings, other field and laboratory explorations, and investigations have been made to indicate subsurface materials at particular locations. Explorations and investigations conducted by designers and their subconsultants are solely for the purpose of study and design.
 - b. The subsurface exploration and investigation information is presented or made available to indicate some of the conditions that may be encountered during construction and is offered as supplementary information only. Geotechnical information presented in the referenced material represents the opinion of soils consultants as to the character of the materials encountered. Subsurface information was directly obtained only at the specified location and necessarily indicates subsurface conditions only at the respective plan location, depths penetrated and only at the time of the exploration.
 - c. Neither the City nor the Designers assume any responsibility whatever in respect to the sufficiency or accuracy of borings made, or of the logs of test borings, or of other investigations, or of the interpretations made thereof, and there is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations are representative of those existing throughout such area, or any part thereof, or that unforeseen developments may not occur. It is expressly understood that the making of deductions, interpretations, and conclusions from all of the accessible factual information, including the nature of the materials to be excavated, the difficulties of doing other work affected by the geology, groundwater elevations and other subsurface conditions at the site of the Work are the Contractor's sole responsibility.
 - d. Information derived from inspection of logs of borings, topographic maps, technical memorandum, reports, or plans showing information of the subsurface of site conditions will not relieve the Contractor from any risk or from properly examining the site and making such additional investigations as the Contractor may elect or from properly fulfilling all the terms of the Contract Documents.
 - 3. Available Conceptual Utility and Drainage Reports.
 - 4. DEN Digital Facilities and Infrastructure (DFI) Design Standards Manual (DSM)
 - 5. Woolpert, Inc. Report - "A Low Distortion Projection for Denver International Airport

**TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 014210 - REFERENCED MATERIAL**

**DENVER INTERNATIONAL AIRPORT
PARKING LEVEL 5 DOME & RAMP IMPROVEMENT
CONTRACT NO. 202475736**

(DEN)", dated 12/10/2010.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014210

SECTION 014220

ABBREVIATIONS AND SYMBOLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Edit and/or insert items in list below as required for Project.

1.02 REFERENCE LIST

- A. Documents published by the following agencies may be referenced within these Contract Documents to define the quality of materials, equipment, workmanship, and other features of Work. Unless otherwise stated, the reference documents shall be of the latest edition as of the date of the Advertisement for Bids.
- B. Wherever used in the Contract Documents, the following abbreviations will have the meanings listed:

Abbreviation	Definition
AALA	American Association of Laboratory Accreditation
AAN	American Association of Nurserymen
AAO	Affirmative Action Officer
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
AFI	Air-Filter Institute
AGTS	Automated Ground Transportation System
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
APEN	Air Pollution Emission Notes
APWA	American Public Works Association
ARI	Air Conditioning and Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Non-Destructive Testing
ASPE	American Society of Plumbing Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWPA	American Wood Preserver's Association
AWS	American Welding Society
AWWA	American Water Works Association
BID	Building Inspection Division, Department of Public Works
BIM	Building Information Modeling

TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 014220 - ABBREVIATIONS AND SYMBOLS

DENVER INTERNATIONAL AIRPORT
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Abbreviation	Definition
CAR	Corrective Action Report
CCD	City and County of Denver
CCR	Contractor Change Request
CCRL	Cement Concrete Reference Laboratory
CD	Change Directive
CDOH	Colorado Department of Highways or Colorado Department of Health
CDOT	Colorado Department of Transportation
CMEC	Concrete Materials Engineering Council
CN	Change Notice
CO	Change Order
COE	Corps of Engineers
CPM	Critical Path Method
CR	Change Request
CRSI	Concrete Reinforcing Steel Institute
CSI	Construction Specifications Institute
DEN	Denver International Airport
DFD	Denver Fire Department
DOT	United States Department of Transportation
DOR	Designer of Record
DWB	Denver Water Board
EEO	Equal Employment Officer or Equal Employment Opportunity
EIA	Electronics Industry Association
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
FM	Factory Mutual Association
FS	Federal Specifications (U.S. General Services Administration)
GCC	General Contract Conditions
GIS	Geographic Information Systems
GMP -	Guaranteed Maximum Price
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code (published by ICC)
IBR	Institute of Boiler and Radiator Manufacturer's
ICBO	International Conference of Building Officials
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IMC	International Mechanical Code (published by ICBO)
IPC	International Plumbing Code (published by ICBO)
ISA	Instrument Society of America
ITA	Independent Testing Agency
MIL	Military Specifications (Naval Publications and Forms Center)
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry
MUTCD	Manual of Uniform Traffic Control Devices
NAAB	National Association of Air Balance
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards (now called National Institute of Standards and Technology)
NEC	National Electric Code (NFPA 70)
NECA	National Electric Contractors Association
NEMA	National Electrical Manufacturer's Association

TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 014220 - ABBREVIATIONS AND SYMBOLS

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Abbreviation	Definition
NESC	National Electrical Safety Code
NFC	National Fire Code (as published by NFPA)
NFPA	National Fire Protection Association
NICET	National Institute for the Certification of Engineering Technologies
NIST	National Institute of Standards and Technology
NGS	National Geological Survey
NLMA	National Lumber Manufacturers Association
NOAA	National Oceanic and Atmospheric Administration
NRMCA	National Ready Mix Concrete Association
NTP	Notice to Proceed
NVLAP	National Voluntary Laboratory Accreditation Program
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute
PDM	Precedent Diagram Method
PS	Product Standard of NIST (U.S. Department of Commerce)
PM	Project Manager
PMT	Project Management Team
PXP	Project Execution Plan
QA	Quality Assurance
QC	Quality Control
RFI	Request for Information
RTD	Regional Transportation District
SC	Special Contract Condition
SDI	Steel Door Institute
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SSPWC	Standard Specifications for Public Works Construction
TCP	Traffic Control Plan
TSA	Transportation Security Administration
UL	Underwriters Laboratories, Inc.
USC	United States Code
WBS	Work Breakdown Schedule

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014220

SECTION 014225

REFERENCE STANDARDS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section contains a summary of industry-accepted and recognized standards published by trade associations, government, and institutional organizations that are referred to in the various Sections of these specifications or elsewhere in the Contract Documents.
- B. Standards listed herein are included in the Contract Documents by this reference and become a part of the Contract Documents to the same extent as though included in their entirety unless specific limitations are noted in the individual specifications Sections.
- C. Listings of reference standards include name and address of the organization publishing the standard, and the full name and designator of each of the standards referenced herein.
- D. If a publication date or edition number is listed with the reference standard, that publication date or edition number shall apply. Otherwise, the publication date or edition number in effect at the Contract date shall apply.
- E. Inclusion of reference standards herein does not make the DEN Project Manager an agent of the publishing agency, nor does it obligate the DEN Project Manager to perform inspections required by or to enforce rules or regulations contained in the reference standards.

1.03 SCHEDULE OF REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials (AASHTO), 444 North Capitol Street, NW, Suite 249, Washington, DC 20090:
 - 1. AASHTO M 36–Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains.
 - 2. AASHTO M216–Standard Specification for Lime for Soil Stabilization.
 - 3. AASHTO T26–Standard Method of Test for Water to be Used in Concrete.
 - 4. AASHTO T84–Specific Gravity and Absorption of Fine Aggregate.
 - 5. AASHTO T85–Specific Gravity and Absorption of Coarse Aggregate.
 - 6. AASHTO T103–Soundness of Aggregates by Freezing and Thawing
 - 7. AASHTO T219–Standard Methods of Testing Lime for Chemical Constituents and Particle Sizes.
- B. American Concrete Institute (ACI) 38800 Country Club Drive, Farmington Hills, MI 48331
 - 1. ACI 211.1–Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.
 - 2. ACI 301–Specifications for Structural Concrete for Buildings.

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<ul style="list-style-type: none"> 22. ASTM C 117–Materials Finer than 75 mm (No. 200) Sieve in Mineral Aggregates by Washing. 23. ASTM C 131–Resistance of Abrasions of Small Size Coarse Aggregate by Use of the Los Angeles Machine. 24. ASTM C 136–Method for Sieve Analysis of Fine and Coarse Aggregates. 25. ASTM C 138–Unit Weight, Yield, and Air Content of Concrete. 26. ASTM C 143–Test Method for Slump of Hydraulic – Cement Concrete 27. ASTM C 150–Specification for Portland Cement 28. ASTM C 171–Specification for Sheet Material for Curing Concrete. 29. ASTM C 172–Method of Sampling Fresh Concrete. 30. ASTM C 173–Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method. 31. ASTM C 231–Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method. 32. ASTM C 260–Specification for Air Entraining Admixture for Concrete. 33. ASTM C 309–Specification for Liquid Membrane-Forming Compounds for Curing Concrete. 34. ASTM C 443–Joints for Concrete Pipe and Manholes, using Rubber Gasket 35. ASTM C 494–Specification for Chemical Admixtures for Concrete. 36. ASTM C 595–Blend Hydraulic Cements. 37. ASTM C 618–Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for use in Concrete 38. ASTM C 655–Reinforced Concrete D Load Culvert, Storm Drain, and Sewer Pipe. 39. ASTM C 789—Precast Reinforced Concrete Box Sections for Culverts, Storm Drains and Sewers: Replaced by C1433 40. ASTM C 803–Test Method for Penetration Resistance of Hardened Concrete. 41. ASTM C 805–Test Method for Rebound Number of Hardened Concrete. 42. ASTM C 977–Specification for Quicklime and Hydrated Lime for Soil Stabilization. 43. ASTM D 75–Sampling Aggregate. 44. ASTM D 422–Test Method for Particle Size Analysis of Soils. 45. ASTM D 516-88–Standard Test Method for Sulfate Ions in Water. 46. ASTM D 693—Crushed Stone, Crushed Slag and Crushed Gravel for Dryer Water-Bound Macadam Base Courses and Bituminous Macadam Base and Surface Courses of Pavements: Withdrawn 47. ASTM D 698–Laboratory Compaction Characteristics of Soil using Standard Effort 48. ASTM D 751–Test Method for Coated Fabrics 49. ASTM D 1556–Test Method for Density of Soil in Place by the Sand-Cone Method. 50. ASTM D 1557–Laboratory Compaction Characteristics of Soil using Modified Effort 51. ASTM D 1682—Ultraviolet Resistance Grab Tensile Strength Grab Tensile Elongation Toughness: Replaced by D5034 and D5035 52. ASTM D 1751–Specification for Preformed Expansion Joint Fillers for Concrete 	

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<p>Paving and Structural Construction.</p> <ol style="list-style-type: none"> 53. ASTM D 1752–Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction. 54. ASTM D 2167–Test Method for Density of Soil in Place by the Rubber-Balloon Method. 55. ASTM D 2216–Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock and Soil Aggregate Mixtures. 56. ASTM D -79 (2011) Hydroxypropyl Methylcellulose 57. ASTM D 2419–Sand Equivalent Value of Soils and Fine Aggregate. 58. ASTM D 2487–Test Method for Classification of Soils for Engineering Purposes. 59. ASTM D 2922—Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Method: Replaced by D6938 60. ASTM D 3017—Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth): Replaced by D6938 61. ASTM D 3665–Random Sampling of Paving Materials. 62. ASTM D 4253–Test Method for Maximum Index Density of Soils Using Vibratory Table. 63. ASTM D 4318–Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils. 64. ASTM D 4397–Specification for Polyethylene Sheeting for Construction, Industrial and Agricultural Applications. 65. ASTM D 4546–Test Method for One-Dimensional Swell or Settlement Potential of Cohesive Soils. 66. ASTM E 329–Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection 67. ASTM F 477–Elastomeric Seals (Gaskets) for Joining Plastic Pipe. 68. ASTM F 758–Smooth-Wall Poly (Vinyl Chloride) (PVC) Plastic Underdrain Systems for Highway, Airport and Similar Drainage. <ol style="list-style-type: none"> D. American Welding Society (AWS), 550 NW LeJeune Road, Miami, FL 33135 AWS Code for Welding in Building Construction (Structural Welding Code). E. Concrete Reinforcing Steel Institute (CRSI) 933 N. Plum Grove Road, Schaumburg, IL 60195, (312) 490-1700: <ol style="list-style-type: none"> 1. Manual of Standard Practice. F. Colorado Department of Transportation (CDOT) Division of Administration, Office of Bid Plans, 4201 E. Arkansas Avenue, Denver, CO 80222: <ol style="list-style-type: none"> 1. Standard Specifications for Road and Bridge Construction (latest edition) Colorado Standard Plans, M&S Standards. G. Federal Highway Administration (FHWA) Superintendent of Documents, US Government Printing Office, Washington DC, 20402: <ol style="list-style-type: none"> 1. Manual of Uniform Traffic Control Devices (latest edition). 	

PART 2 - PRODUCTS (NOT USED)

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PART 3 - EXECUTION	(NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014225

SECTION 014230

DEFINITIONS AND CONVENTIONS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section contains a list of definitions of words or phrases and grammatical or contextual conventions commonly used in these Contract Documents.

1.03 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. Alphabetical Listing of Definitions:
 1. As indicated: Shown on the drawings by graphic indication, notes, or schedules, or written in the specifications or elsewhere in the Contract Documents.
 2. As directed, as approved, as requested: Unless otherwise indicated, these terms imply "by the DEN Project Manager" and require that an instruction be obtained by the Contractor from the DEN Project Manager.
 3. Concealed: Embedded in masonry, concrete, or other construction; installed in furred spaces; within double partitions or hung ceilings; in trenches; in crawl spaces or in enclosures.
 4. Ensure: To make certain in a way that eliminates the possibility of error.
 5. Exposed: Not installed underground or "concealed" as defined above.
 6. Furnish or Provide: To supply, install and connect complete and ready for safe and regular operation of particular work unless specifically otherwise noted.
 7. Indicated, Shown, or Noted: As depicted on drawings or specifications.
 8. Install: To erect, mount and connect complete with related accessories.
 9. Or equal, or approved equal: Refers to products which, in the opinion of the DEN Project Manager, are similar in all respects to products specified by proprietary brand name. Refer to Section 012510 "Substitutions" for procedures for submittal of proposed substitutions.
 10. Rework: To repair existing items or work required to be removed and replaced in order to accomplish the Work in accordance with the Contract Documents.
 11. Related Work: Includes, but not necessarily limited to, mentioned work associated with, or affected by, the Work specified.
 12. Reviewed, Satisfactory, Accepted, or Directed: Assumes by or to the DEN Project Manager.
 13. Similar, or Equal: Same in materials, weight, size, design, construction, capacity, performance, and efficiency of specified product.
 14. Supply: To purchase, procure, acquire and deliver complete with related accessories.

TECHNICAL SPECIFICATIONS
DIVISION 01 – GENERAL REQUIREMENTS
SECTION 014230 - DEFINITIONS AND CONVENTIONS

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15. Unless Otherwise Indicated and Unless Otherwise Noted: General note to perform work as indicated or shown on drawings or in specifications unless specifically directed otherwise elsewhere in the Contract Documents; may be abbreviated "U.O.N.", "U.O.I.", or "U.N.O.".

C. BIM Model Definitions:

1. Building Information Model (BIM): BIM is a digital representation of the physical and functional characteristics of the Project and is referred as a Model(s), which term may be used to describe a Model Element, a single Model or technology used to create the Model.
2. Design Model: A Model that has reached the stage of completion that would customarily be expressed by an architect or engineer in two-dimensional Construction Documents.
3. Construction Model: The equivalent of shop drawing and other information useful to construction. A model that consists of data imported from a "Design Model or", if none exist, from a designer's "Construction Document".
4. Federated Model: Distinct component models "linked" together in such a manner that the linked data sources so not lose the indent or integrity by being so linked.
5. Level of Development (LoD): LoD describes the level of completeness to which a Model Element is developed.
6. Model Element: Is a portion of the BIM representing a component system or assembly within a building or building site.
7. Model Element Author: The party responsible for developing the content of a specific Model Element to the LoD for a particular phase of the Project.

1.04 BIM REFERENCE STANDARDS

- A. Refer to the DEN BIM Design Standard Manual (DSM) for the proposed minimum requirements of the BIM Execution Plan. The execution plan shall be further developed jointly with DEN and the Contractor to specifically address the administrative steps necessary to provide comprehensive BIM system before during and after construction.

1.05 CONVENTIONS

A. Specifications Format:

1. In order to standardize the location of information in the Contract Documents, the specifications generally are organized in one or more of the following formats:
 - a. The "MASTERFORMAT" 2020 Edition published by the Construction Specifications Institute.
 - b. The Standard Specifications for Road and Bridge Construction published by CDOT.
 - c. The alphanumeric system as published by the FAA.

B. Organization of Drawings and Specifications:

1. Organization of the specifications into divisions and sections, and arrangement or numbering of drawings is intended solely for the convenience of the Contractor in the Contractor's responsibilities to divide the Work among subcontractors or to establish the extent of work to be performed by any trade.
2. Neither the City nor the DEN Project Manager assume any liability arising out of jurisdictional issues or claims advanced by trade organizations or other interested parties based on the arrangement or organization of drawings or specifications.

**TECHNICAL SPECIFICATIONS
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C. Gender and Number:

1. For convenience and uniformity, parties to the Contract, including the City, Contractor, and DEN Project Manager, and their subcontractors, suppliers, installers, consultants or other interested parties are referred to throughout the Contract Documents as if masculine in gender and singular in number. Such reference is not intended to limit the meaning of the Contract Documents to the masculine gender or singular number.

D. Singular vs. Plural:

1. Materials, products, equipment, or other items of work referred to in the singular shall be construed as plural where applicable by the intent of the Contract Documents and shall not limit quantities to be provided by the Contractor.

E. Imperative Mood:

1. Specifications and notes on the drawings or elsewhere in the Contract Documents are generally written in the imperative mood as instructions to the Contractor, whether the Contractor is specifically addressed or not.

F. References to Subcontractors or Trades

1. References to subcontractors, trades or other entities, which are not parties to the Contract, shall be construed as meaning the Contractor whose responsibility it shall be to divide the Work among subcontractors or trades. Such references are used as a matter of convention, and are not intended to preclude or direct the Contractor's responsibility to divide the Work.

G. Abbreviations

1. A list of abbreviations used in the Contract Documents is included in Technical Specifications Section 014220 "Abbreviations and Symbols"; an abridged list of abbreviations used on the drawings is included with the drawings.
2. Abbreviations are believed to be those in general use in the construction industry. Contact the DEN Project Manager for clarification of abbreviations for which the meaning is not clear.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014230

SECTION 014510**CONTRACTOR QUALITY CONTROL****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section identifies the Quality Control activities to be performed during all phases of the Contract by the Contractor.
- B. The Contractor shall have in place a Quality Control Program as necessary to ensure that all materials and work are completed in compliance with Contract Documents. The Contractor is solely responsible for Quality Control and shall provide the necessary quality control personnel to ensure that all materials, workmanship, and tests are in conformance with the Project documents with the exception of those tests and/or audits that may be conducted by the City as defined in the contract documents.
- C. Test schedules and/or testing requirements for materials used on this project are included in the technical specifications. Laboratory and field-testing identified in the specifications shall be conducted by a Testing Agency retained by the Contractor; hereafter is referred to as the Contractor Testing Agency (CTA).
- D. The City or the City's consultant will employ a testing agency to perform all the required Quality Assurance and Special Inspection Testing of material and Inspection of workmanship required by the Contract Documents and the Building Official to fulfill the code and the regulatory authority's requirements. The Contractor must schedule these tests and provide access to the City inspectors and testers to perform these tests and inspections on behalf of the City. The performance of the tests by the City does not relieve the Contractor of the responsibility to deliver a fully functional building meeting all the requirements of the Contract Documents and their intent. The Contractor must develop its own testing program for processing, acceptance from the subcontractor or suppliers at a frequency defined by the contractor for its own process control and to assure delivery of the intended acceptable workmanship. All time impacts of testing and retesting shall be accounted for in the updated schedule and any mitigation of time impacts shall be the responsibility of the Contractor.

1.03 SUBMITTALS

- A. Refer to Section 013300 "Submittals" and Section 013325 "Submittal Procedures" for submittal requirements.
- B. Quality Control Plan: Within ten (10) days after Notice to Proceed, the Contractor shall submit a Quality Control Plan for review and acceptance. The Quality Control Plan shall be accepted by the DEN Project Manager prior to any Work or materials being incorporated into the Project. Acceptance by the DEN Project Manager does not relieve the Contractor of its responsibility to comply with the Contract Requirements. The Contractor Quality Control Plan shall address the following as a minimum:
1. A general description of Quality Control monitoring to be performed until final acceptance by DEN. Include monitoring activities of Work and the work site during

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times that no construction activity is scheduled to take place.

- a. No work requiring QC inspection and testing shall take place without QC inspection and testing staff on site.
2. An individual designated by the Contractor and approved in writing by the DEN Project Manager whose [sole] responsibility is Quality Control Management. This individual shall be highly qualified in all phases of construction as it relates to this Project and shall have the authority to direct work changes required to bring the Work into conformance with Contract requirements, including stopping non-conforming work in progress. A detailed resume of the proposed Quality Control Manager including applicable education, experience, and certifications shall be included in the Quality Control Plan.
 - a. At the discretion of the DEN Project Manager, for Small Projects, Early Work Packages and Task Orders all of value less than \$1,000,000 or a duration which is less than three (3) months, the Contractor may assign one of the Contractor's staff, i.e. Contractor's Superintendent, Office Engineer, Field Engineer, or Contractor's Project Manager as Quality Control Manager. The assigned person must be on site while work requiring QC inspection and testing is being completed and available to discuss quality issues, manage all aspects of the Project Quality Control Plan, coordinate all required Special Inspection and Quality Assurance testing, and provide proposed solutions on all quality issues at any time as to not cause any delay to the project. Any delays caused in part or in all due to defective or no conforming work shall be borne by the Contractor.
3. Quality Control inspection staff as needed to assist the Quality Control Manager with implementation of the Quality Control Program. Duties of the Quality Control Inspectors shall be limited strictly to inspection of the ongoing work. Sampling and testing of materials shall be performed by Quality Control personnel other than Quality Control Inspectors. Quality Control Inspectors shall inspect only those work elements for which they are qualified. Resumes of the proposed Quality Control Inspectors including applicable education, experience and certifications shall be included in the Quality Control Plan.
4. An Organization Chart identifying all Quality Control staff by name and function. The chart shall indicate the total staff required to implement all elements of the Quality Control Program, including inspection and testing for each item of work including tests performed by the CTA or DTA. If necessary, different Quality Control staff can be utilized for specific inspection and testing functions for different items of work. The chart shall show that the Quality Control Manager, Quality Control Inspectors, and Quality Control testing personnel are outside of the production staff with clear lines of authority for Quality Control.
5. The City will employ a DTA. If the Project Management Team for the project is a consultant of the City, then the City's consultant may employ a DTA. The Contractor's testing and inspection shall be performed for the processing, preparation and to request City's inspection and as necessary to produce the required product as specified in the Contract Documents. The Contractor shall meet the minimum inspection and testing frequencies specified in the contract documents. When the contract documents do not specify minimum inspection and testing frequencies the Contractor shall propose in writing to the DEN Project Manager a QC inspection and testing frequencies that meet or exceed industry standards for the material and work being placed or conducted.
6. Any test performed by any agency on the Project shall be recorded and show a passing re-test of all failing tests.
 - a. All test results shall be made available for inspection by the DEN Project Manager. This includes tests that are above the QC testing frequency required.
7. Any tests submitted by the Contractor for basis of acceptance, or payment reduction

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when performed by the Contractor or on its behalf, must meet all standards and must be certified to have followed approved procedure, processed in a certified lab by properly certified or licensed personnel by properly certified testers and on calibrated and certified equipment. Authentications of tests must be preapproved and cannot be selectively submitted. All tests shall be recorded in the field witnessed by DEN's inspector in order to be accepted as a record test of the material in question. Any failing tests could be the sole basis for rejecting the material.

8. Each technical specification division's requirements for quality control identifying each item requiring submittal and approval/acceptance prior to installation of work, all inspections to be performed during work and prior to acceptance of work, each item of work requiring testing by the independent testing agency or the City provided testing agency, and the testing frequency.
 9. The plan shall address all elements of special inspection required by the statement of special inspection as approved by the Building Official. All special inspections and tests will be performed by agencies employed by the City.
 10. The Contractor is responsible for the complete record of inspection file including but not limited to all manufacturer certificates, certificates of material compliance, Certificates of Material Testing Record, successful re-inspection of all deficiency items, proper deposition of design related Non-Conformance reports (NCR), Structural Engineers' observation reports, certification letters from the DTA, Building Inspectors' records of approvals, permit cards, fire suppression and fire- alarm tests records as witnessed by the authorities of jurisdiction and any record necessary to achieve a certificate of occupancy.
 11. The Contractor must keep track of all logs of discrepancies and submit periodic updates, as required by the DEN Project Manager, of all open issues and track the closure of open items in a timely manner.
 12. Establish controls and documentation format to ensure that items or materials that have been accepted through receiving inspection are used or installed. Identification and traceability shall be provided throughout all inspections, test activities, and records. For stored items, provisions shall be made for the control of item/material identification, consistent with the expected duration and type of storage.
 13. A methodology of monitoring, testing, and exercising of all equipment, valves, and/or assemblies to ensure the Work installed is in proper working order.
 14. A list of suppliers and subcontractors. This list shall include items to be supplied by each supplier and/or subcontractor and shall identify work to be performed by each subcontractor. The list shall be updated and resubmitted as required.
 15. All approvals related to Special Inspection are subject to the acceptance or approval of the Building Official.
 16. Emergency contact information including name, company, title, work phone number, home phone number, and other means of contact. The Emergency Contact list shall include at least four individuals. The Emergency Contact list shall be maintained on a daily basis. In the event there is any change in any of the information, the Contractor shall forward the updated list to the DEN Project Manager and to DEN Maintenance Control (303-342-2800). The Emergency Contact list shall include the project number, project title, and date of issue.
- C. The Contractor shall transmit the following daily reports to the DEN Project Manager electronically PRIOR TO THE CLOSE OF BUSINESS ON the following workday:
1. CM-13 Contractors Daily Construction Report. The Foreman may add sheets of information to this form as needed.
 2. CM-07 Daily Quality Control Inspection Report and all CTA test results performed that

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day.

3. CM-08 Daily DEN Time and Materials Report

- D. Deficiency List: The Quality Control Manager shall establish a deficiency list including the minimum information for each deficiency item; description, date, location, drawings reference, detail reference, specification reference, and superseding document NCR, date of expected solution date repaired date inspected by City representative and accepted.

1.04 DOCUMENTATION

- A. The Contractor shall not change or alter approved submittals, procedures, specifications, drawings/MODELS, or other pertinent documentation without the DEN Project Manager's written authorization.
- B. All records and documents that are related to quality control or assurance shall be prepared, identified and maintained by the Contractor and shall be made available to DEN upon request. Records shall be protected from damage, deterioration, or loss. A copy of the records and documents shall be maintained at the Work site at all times unless the DEN Project Manager has approved other locations in writing. Retention time for all quality records shall be not less than six (6) years from date of Final Acceptance of the Contract.
- C. The Contractor is responsible for the complete record of inspection file including but not limited to all manufacturer certificates, certificates of material compliance, Certificates of Material Testing Record, successful re-inspection of all deficiency items, proper deposition of design related NCRs, Structural Engineers' observation reports, certification letters from the DTAs, Building Inspectors' records of approvals, permit cards, fire suppression and fire-alarm tests records as witnessed by the authorities of jurisdiction and any record necessary to achieve a Certificate of Occupancy.
- D. The Contractor shall maintain records at the actual worksite and at Contractor's office to show the inspection status of materials and items installed in order to ensure that the required inspections and tests have been performed in a timely and correct manner.
- E. The Contractor must keep a record of all deficiency issues and show positive evidence of closure (passing re-inspection or re-test) to every issue.

1.05 INSPECTIONS AND TESTS

- A. Inspections, tests and system shut down requests, conducted by persons or agencies other than the Contractor, shall not in any way relieve the Contractor of the responsibility and obligation to meet all specifications and the referenced standards. The Contractor's designated Quality Control Representative shall inspect the work and shall ensure the Work complies with the Contract requirements prior to any requests for inspection or testing.
- B. When the specifications, laws, ordinances, rules, regulations or orders of any public agency having jurisdiction require the DEN Project Manager's surveillance of inspections or tests, the Contractor shall notify the DEN Project Manager, in writing, of the place, date and time 48 hours prior to the inspection and/or test. The Contractor shall be responsible for notifying and requesting inspection by other agencies including but not limited to the Denver Building Inspection Division, Denver Fire Department, and Denver Water Department. Prior to request for other agency inspections, the Contractor shall meet and plan inspection times with the DEN Project Manager.
- C. Special inspections or tests may be required by the technical specifications, City, State and/or Federal Agencies in addition to those tests already performed. The Contractor shall notify the DEN Project Manager, in writing, at least 48 hours in advance of the additional

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inspections or tests.

- D. Quantities will be verified as defined in the Pre-Work Meetings.

1.06 INSPECTION PLAN

- A. The Contractor shall utilize the following six-point inspection plan to ensure the conformance of the Work performed by the Contractor meets the requirements of the Contract Drawings and specifications, the referenced codes and standards and the approved submittals:
1. Pework Coordination: Prior to the start of construction work on the Contract and prior to the start of Work under each separate specification section and prior to the start of Work where a change in a construction operation is contemplated by the Contractor, and prior to a new subcontractor starting work, a coordination meeting to ensure that the Contractor's personnel have no misunderstandings regarding their safety and quality procedures as well as the technical requirements of the Contract will be held with the Contractor's superintendent, Quality Control and Safety representatives, and DEN Project Manager. Supervisory, Safety and Quality Control, representatives of all applicable subcontractors will also attend. Prior to the meeting, the Contractor's Quality Control Manager shall provide the DEN Project Manager with a meeting agenda for review. The Contractor's Quality Control Manager shall conduct the meeting and distribute the approved agenda. The Quality Control Manager shall develop and electronically distribute finalized meeting minutes within one business day upon completion of the meeting. The following items shall be presented and reviewed by the Contractor:
 - a. Contract requirements and specifications.
 - b. Shop drawings, certifications, submittals, models, and as-built drawings.
 - c. Testing and inspection program and procedures.
 - d. Contractor's Quality Control program.
 - e. Familiarity and proficiency of the Contractor's and subcontractor's workforce to perform the operation to required workmanship standards including certifications of installers.
 - f. Safety, security, and environmental precautions to be observed.
 - g. Any other preparatory steps dependent upon the particular operation.
 - h. The Contractor's means and methods for performing the Work.
 2. Initial Inspection: Upon completion of a representative sample of a given feature of the Work and no later than two weeks after the start of a new or changed operation, the DEN Project Manager and/or the DEN Project Manager's designated representatives will meet with the Contractor's Quality Control representative and applicable subcontractor's supervisor and their Quality Control representatives to check the following items, as a minimum:
 - a. Workmanship to established quality standards.
 - b. Conformance to Contract Drawings, specifications and the accepted shop drawings.
 - c. Adequacy of materials and articles utilized.
 - d. Results of inspection and testing methods.
 - e. Adequacy of as-built drawings/MODELS maintained daily.
 - f. Once accepted, the representative sample will become the physical baseline by which ongoing work is compared for quality and acceptability. To the maximum practical extent, approved representative samples of work elements shall remain visible until all work in the appropriate category is complete. Acceptance of a sample does not waive or alter any Contract requirements or show acceptance of any deviation from the Contract not approved in writing by the DEN Project

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Manager.

3. Follow-up Inspection: The Contractor's Quality Control representative will monitor the Work to review the continuing conformance of the Work to the workmanship standards established during the preparatory and initial inspections.
4. Completion Inspection: Forty-eight (48) hours prior to the completion of an item or segment of work and prior to covering up any work, the Contractor shall notify the DEN Project Manager, in writing, who will verify that the segment of work is substantially complete, all inspections and tests have been completed and the results are acceptable. The purpose of this inspection is to allow further corrective work upon, or integral to, the completed segment of work. **THIS IS NOT AN ACCEPTANCE INSPECTION.** If any items are determined to be deficient, need correction or are non-conforming, a Deficiency List will be prepared and issued to the respective Contractor for correction, repair, or replacement of any deficient or non-conforming items. The DEN Project Manager and Contractor's Quality Control representative will verify the correction of the deficient and/or non-conforming items prior to the start of the next operation.
5. Pre-Final Acceptance Inspection: Prior to requesting a Pre-Final Acceptance Inspection by DEN, all work and operational systems to be inspected shall be satisfactorily completed and tested by the Contractor. The Contractor's written request for this inspection shall be made seventy-two (72) hours in advance. With the request shall come a list of any known deficiencies and when they will be corrected. If the list is too large or contains too many significant items, in the opinion of the DEN Project Manager, no inspection will be held because of the incompleteness of the Work.
6. The DEN Project Manager will schedule the Pre-Final Acceptance Inspection and will prepare a list of deficient items (punch list) discovered during the inspection. If during the inspection, the list becomes too large or too many significant items are on the list, the inspection will be canceled by the DEN Project Manager. After the inspection is completed, the Deficiency List will be transmitted to the Contractor for correction of the deficient items.
7. Final Acceptance Inspection: After the Contractor has completed all items on the Deficiency List (generated from the Pre-Final Acceptance Inspection), he shall request a Final Acceptance Inspection. The request shall be made in writing at least seventy-two (72) hours in advance of the inspection. All areas must be cleaned and ready for turnover prior to this inspection. The DEN Project Manager, the design consultant, a representative of the funding agency (if applicable) and other interested parties will inspect the subject Work to ensure that all deficiencies have been satisfactorily attended to and that no new deficiencies have appeared and that all systems are completely functional. Any outstanding or additional deficient items will be noted and handled per the requirements of the Pre-Final Acceptance Inspection noted above until the Work is acceptable to the DEN Project Manager.

1.07 CONTRACTOR SUBMITTAL OF PROPOSED CONTRACTOR'S TESTING AGENCIES

- A. Refer to Section 014525 - Material Testing Agency

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 REQUIREMENTS

- A. All materials required for the Contract shall be new except where specified otherwise. The DEN Project Manager may elect to perform additional inspections and/or tests at the place

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of the manufacture, the shipping point or at the destination to verify conformance to applicable specifications. Inspections and tests performed by DEN shall not relieve the Contractor from the responsibility to meet the specifications, nor shall such inspections/tests be considered a guarantee for acceptance of materials that will be delivered at a later time.

- B. Materials accepted based on a Certificate of Compliance may be sampled and inspected/tested by DEN or its designer at any time. The fact that the materials were accepted based on such certification shall not relieve the Contractor of the responsibility to use materials that conform to the specifications.
- C. The Contractor shall impose upon suppliers the same quality control requirements, including inspection and test procedures, as imposed upon him by the specifications and referenced standards. The Contractor shall apply appropriate controls, designed to ensure that all materials supplied meet the requirements and specifications.

3.02 NONCONFORMING WORK AND MATERIALS

- A. Non-conformance Report (NCR)
 - 1. The Project Manager will issue an NCR to the Contractor whenever there are violations of the terms of the contract that cannot be immediately brought back into conformance, including materials received and/or items of the work found not to be in conformance with contract requirements. When issued, a Non-conformance Report will preclude payment for elements noted and will remain in effect until corrective actions have been submitted, approved, and performed.
 - 2. The NCR will describe the nature and extent of nonconforming elements and will include space for the Contractor's corrective action proposal, the designer's review of the Contractor's proposal, reinspection and/or verification of approved corrective rework and a space for the Project Manager's disposition of the nonconformance matter. Copies of the NCR, at each step of its processing (i.e., initial issuance to Contractor through final disposition), will be sent to the Contractor.
 - 3. The NCR will be signed by the DEN Project Manager, and Contractor must acknowledge and sign the NCR within (10) days.
 - 4. The Project Manager will make the disposition of nonconforming items/materials.
 - 5. Failure to list any nonconforming work on an NCR does not relieve the contractor of responsibility for completing the Work in accordance with all contract requirements.
 - 6. The contractor cannot submit change requests associated with any portion of work under an NCR.
- B. The Contractor is obligated to correct any item deem deficient.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

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- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014510

SECTION 014525**MATERIAL TESTING AGENCY****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Contractor shall employ the services of a Material Testing Agency; hereafter referred to as the Contractor Testing Agency (CTA). This Section identifies the requirements for the Contractor to employ a Material Testing Agency and identifies the required activities of the Material Testing Agency.
- B. Laboratory and field-testing requirements to be conducted by the CTA for materials and construction methods used on this project are included in the appropriate technical specifications. Where the Specifications reference the CDOT Standard Specifications for Road and Bridge Construction, the references shall also mean CDOT Field Materials Manual for schedule of tests unless otherwise stated. As a minimum, the CTA described in this Section shall perform all applicable tests listed in the manual including the independent assurance sampling and testing. In the event of such a conflict between the schedule and a specification in these technical provisions, the more comprehensive testing shall govern unless otherwise noted.
- C. Inspections and tests conducted by the CTA shall not in any way relieve the Contractor of the Contractor's responsibility and obligation to meet all specifications and referenced standards. Employment of the CTA does not relieve the Contractor of providing the required Quality Control program.
- D. When inspections or tests by the CTA prove that the item or material does not meet all applicable specifications and requirements, the cost incurred for the re-testing or re-inspection shall be borne by the Contractor as per this Section.
- E. Samples will only be considered if taken at random. The Contractor shall permit representatives of the City to witness the selection of samples. Inspection or tests of items or materials that fail shall be sufficient cause to terminate further inspections/tests of the same brand, make or source of that product.
- F. The Contractor is obligated to correct any item deemed deficient at no additional cost to DEN.

1.03 SUBMITTALS

- A. All submittals shall comply with requirements of Sections 013300 "Submittal Procedures" and 013325 "Shop and Working Drawings, Product Data and Samples" for submittal requirements.

1.04 CONTRACTOR SUBMITTAL OF PROPOSED TESTING AGENCIES

- A. The Contractor shall employ the services of a CTA that has been accredited by AASHTO or

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CCRL or an approved equal to perform the tests required in the Contract. The CTA may also provide technicians to perform the required inspections. However, inspection and testing cannot be performed simultaneously by the same technician. The Contractor shall receive written acceptance from the DEN Project Manager of the CTA prior to any permanent work being installed or tested.

- B. The Contractor shall not submit for acceptance to the DEN Project Manager any testing agency or laboratory utilized in the design or construction document preparation or presently employed by DEN as part of DEN Quality Assurance, Material Testing, or special inspection agencies.
- C. For consideration of acceptance, the Contractor shall submit to the DEN Project Manager the following items received from the CTA:
 - 1. Affidavit of current accreditation from a national certification and/or accreditation program(s).
 - 2. Evidence that the CTA Laboratory is accredited to perform the testing required in the Contract Documents.
 - 3. Resumes and evidence of professional engineer registration and licensing in the State of Colorado for the personnel reviewing and signing test reports.
 - 4. Resumes and current certifications verifying that CTA management and supervisory personnel, laboratory staff, field testing technicians, and inspecting technicians are qualified in accordance with ASTM C 1077, D 3666, D 3740, and E 329 requirements to perform the Work. NICET, ACI, WAQTC, LabCAT, CDOT, NRMCA, PCA, AWS, ASNT certifications or a degree in a related engineering field with construction field experience that can demonstrate qualifications. A list summarizing all management, supervisory, laboratory, field testing, and inspection personnel assigned to the Project including the testing and/or inspection each individual will be performing, certifications held by each individual, and the expiration date of each certification.
 - 5. A matrix indicating each technical specification section, paragraph, quantity and type of sampling and/or testing required.
 - 6. Copies of all laboratory, field testing, and inspection report forms.

1.05 SUBMITTAL OF REPORTS

- A. Test results shall be submitted by the Contractor to the DEN Project Manager after completion of inspections/tests by the CTA and prior to incorporation of the items into the Work unless the test or inspection must be done during or after installation.
- B. All field test results including but not limited to fresh concrete properties and in-place moisture-density shall be reported in legible draft form to the DEN Inspector immediately at the test site. Any failing test shall be reported separately to the DEN Inspector or DEN Project Manager. The draft test results shall also be attached to the Daily Quality Control Inspection Report (reference Section 014510 "Contractor Quality Control") and transmitted to the DEN Project Manager the next workday.
- C. Typed test reports shall be provided to the DEN Project Manager as specified in the "Weekly Reports" Article in this Section. The test reports shall be numbered sequentially in chronological order. Individual tests shall be numbered sequentially. The reports and tests shall also be organized per specification section. All test results must be reviewed and signed by a registered licensed engineer in the State of Colorado. The signature represents that the test procedures used are in strict conformance with the applicable testing standard, the calculated data are true and accurate, the tools and equipment used were in calibration, the sample was not contaminated and the persons running the test were qualified.

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- D. Reports of inspections and test activities are record documents and shall be maintained in a manner that provides integrity of item identification, acceptability, and traceability. Reports shall identify the following:
1. Contractor's name.
 2. DEN Contract number and title.
 3. Material Testing Agency name.
 4. Name of items inspected/tested including a physical description and, as applicable, model and make.
 5. Quantity of items.
 6. Inspection/test procedure used. If national standards are used, any deviation from these standards.
 7. Date the sample was taken and the date the test was made.
- E. Location (by coordinates, building grid or station number and elevation) of where tests and/or samplings were performed including environmental condition where applicable. Include plan drawing indicating location of test, lot size and location and work item sampled or tested.
1. Name of inspector/tester.
 2. In the event the testing or sampling is a re-test or re-sampling, reference the previous respective testing or sampling report.
 3. Specified requirements in the Contract that the item must meet. Include reference to technical specification section and paragraphs.
 4. Acceptability.
 5. Deviations/nonconformance.
 6. Evaluation of results.
 7. All information required for the specific test as specified in the applicable ASTM standard.
 8. Signature of authorized evaluator.

1.06 WEEKLY SUMMARY REPORTS

- A. The CTA and Quality Control Manager shall prepare and submit to the DEN Project Manager a weekly summary report each week, which summarizes by specification section all work activities and results for the quality control tests and inspections conducted during that period. The weekly summary report shall be submitted within two (2) weeks from the end of the reporting period. At a minimum, the weekly summary report shall identify all inspections, test types, test locations, testers, test results, specifications, whether the test passed or failed, quantity of materials placed and the number of tests performed for each material, and the material supplier, installer and Contractor. Re-tests shall be identified in a fashion that easily correlates to the failing test. Any failed tests that have not been corrected when the report is published shall be highlighted and noted in the cover letter of the report.
- B. The weekly report shall be submitted per Sections 013300 requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

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3.01 REMOVAL OF NONCONFORMING MATERIAL

- A. The Contractor is obligated to correct or remove nonconforming materials, whether in place or not. If necessary, the DEN Project Manager will send written notification to the Contractor to correct or remove the defective materials from the project. If the Contractor fails to respond, the DEN Project Manager may order correction, removal, and/or replacement of defective materials by others, in which case the Contractor shall bear all costs incurred related to correcting, removing, and/or replacing the defective materials.

3.02 PERFORMANCE

- A. If the DEN Project Manager determines that the CTA or its personnel are not effectively enforcing or performing the testing and documentation requirements specified in the Contract, the DEN Project Manager will require, in writing, the Contractor to remove and replace the CTA or such personnel at no cost to DEN.

3.03 CONTROL OF MEASURING AND TEST EQUIPMENT

- A. The CTA shall select measuring and test equipment in such a manner as to provide proper type, range, accuracy, calibration, and tolerance for determining compliance with specified requirements. Measuring and test devices shall be calibrated, adjusted and maintained at prescribed intervals prior to use based upon equipment stability and other conditions affecting measurement. Provisions shall be made for the proper handling and storage of equipment. Calibration shall be accomplished using certified standards that have a known traceable relationship to the National Institute of Standards and Technology. Every calibrated measuring and test device shall show the current status, date of last calibration and the due date for the next calibration. Calibration records shall be maintained onsite as quality records and shall be made available for inspection upon the DEN Project Manager's request.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014525

SECTION 014545

SPECIAL INSPECTION AGENCY AND OWNER TESTING AGENCIES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Verify if adopted codes below are current at time of Project.
- C. Special Inspection Statement issued as part of the application for building permit for the specific task or project.

1.02 SUMMARY

- A. The City will employ the services of Special Inspection Agencies (SIA). This Section identifies the requirements for the Contractor to coordinate, facilitate, and support DEN and its agents and consultants to fulfill the requirements of Special Inspection.
 - 1. Any additional tests deemed necessary by the Building Official, Engineer of Record, Special Inspector or DEN Project Manager to assure these agencies that all material and work on the Project meet the requirements of the Contract and all applicable codes and regulations.
 - 2. Minimum Laboratory and field testing requirements to be conducted by the SIA for materials and construction on this Project are included in the Table at the end of this Section.
 - 3. The Contractor shall not perform any work that could cover work or material that has not passed a special inspection or that requires the presence of the special inspector to meet the requirements of continuous or periodic inspection.
 - 4. It is the responsibility of the Contractor to plan and coordinate all testing requirements on the project to assure no delays are occurring due to the lack of inspection or testing.
 - 5. The Contractor must allow sufficient time in the schedule to perform all required inspection and testing.
 - 6. All rework due to nonconformance, failing tests or rework to test covered work prior to proper inspection and testing shall be borne by the Contractor.
 - 7. All re-inspections and re-testing costs due to non-conformances or failing tests or revisiting to test covered or incomplete work shall be borne by the Contractor at a cost of \$100 per hour in addition to all direct and indirect costs associated with testing.
 - 8. Periodic welding inspection shall include the minimum of fitting inspection and final inspection at all times.
 - 9. Inspections and tests conducted by the SIA shall not relieve in any way the Contractor of the Contractor's responsibility and obligation to meet all specifications and referenced standards. Employment of the SIA does not relieve the Contractor of providing the required Quality Control program.
 - 10. When inspections or tests by the SIA prove that the item or material does not meet all applicable specifications and requirements, the cost incurred for the re-testing or re-

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inspection shall be borne by the Contractor. Reference Article 5.1 of this Section.

- 11. Samples will only be considered if taken at random. The Contractor shall permit representatives of the City to witness the selection of samples. Inspection or tests of items or materials that fail shall be sufficient cause to terminate further inspections/tests of the same brand, make or source of that product.
- 12. The Contractor is obligated to correct any item deemed deficient at no additional cost to DEN.

1.03 SUBMITTALS

- A. All submittals shall comply with requirements of Section 013300 "Submittals" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal requirements.

1.04 CONTRACTOR SUBMITTAL OF PROPOSED CONTRACTOR'S TESTING AGENCIES

- A. Projects requiring Special Inspection where the Contractor is utilizing a certified shop to produce material. DEN requires that testing be performed to satisfy the certification be no less than the following: All material and workmanship meets the requirements of a Contractor Material Testing Agency.
- B. The Contractor shall employ the services of a Testing Agency for process control and acceptance by the subcontractors and suppliers or material delivery for Contractor convenience or contractual obligations with others.
- C. The Contractor's Testing Agency must be accredited agency to perform any test required to be submitted for compliance with a Contract requirement or for use of data by DEN agencies for any official use, for examples and not to grant any obligation on the DEN Project Management Team, any payment reduction factor calculation. Any dispute or requirement to recalibrate testing equipment or machine, proof of compliance of material that was installed in contrary to manufacturer recommendation, any apparent defect due to adverse weather, improper installation, incomplete material record.
- D. Contractor's Testing Agency must be a qualified entity that has performed testing on similar jobs in size and complexity and has been accredited by AASHTO or CCRL or an approved equal to perform the tests required in the Contract. The CTA may also provide technicians to perform the required inspections. However, inspection and testing cannot be performed simultaneously by the same technician.
- E. The Contractor shall not submit for acceptance to the DEN Project Manager any testing agency or laboratory utilized in the design or construction document preparation or presently employed by DEN as part of DEN Quality Assurance.
- F. For consideration of acceptance, the Contractor shall submit to the DEN Project Manager the following items received from the CTA:
 - 1. Affidavit of current accreditation from a national certification and/or accreditation program.
 - 2. Evidence that the CTA is accredited to perform the testing required in the Contract Documents.
 - 3. Resumes and evidence of professional engineer registration and licensing in the State of Colorado for the personnel reviewing and signing test reports.
 - 4. Resumes and current certifications verifying that SIA management and supervisory personnel, laboratory staff, field testing technicians, and inspecting technicians are

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qualified in accordance with ASTM C 1077, D 3666, D 3740, and E 329 requirements to perform the Work. NICET, ACI, WAQTC, LabCAT, CDOT, NRMCA, PCA, AWS, ASNT certifications, or a degree in a related engineering field with construction field experience can demonstrate qualifications. A list summarizing all management, supervisory, laboratory, field testing, and inspection personnel assigned to the Project including the testing and/or inspection each individual will be performing, certifications held by each individual, and the expiration date of each certification.

5. A matrix indicating each technical specification section, paragraph, quantity and type of sampling and/or testing required.
6. Copies of all laboratory, field testing, and inspection report forms.

1.05 SUBMITTAL OF REPORTS

- A. Test results shall be submitted by the Special Inspector and/or DEN Testing Agency to the DEN Project Manager after completion of inspections/tests by the SIA/OTA and prior to incorporation of the items into the Work unless the test or inspection must be done during or after installation.
- B. All field test results including but not limited to fresh concrete properties and in-place moisture-density shall be reported in legible draft form to the DEN/PMT Inspection and the Contractor Quality Control Manager immediately at the test site. Any failing test shall be reported separately to the DEN/PMT Inspector or DEN Project Manager within two (2) hours after the discovery.
- C. The Contractor's Quality Control Manager or his/her Authorized representative must keep track and official record of all tests passed, failed, or defected. The Contractor shall be fully responsible to show passing tests of all required elements. The lack of any passing test record of any required element does not waive the requirement to of testing or inspection as required by the Contract Documents and the IBC. The Contractor shall bear all costs associated with recovering missing tests including but not limited to the cost of the cost of disassembling, testing or inspecting, reassembling, and any indirect time or cost impacts of a missing required test or inspection.
- D. Typed test reports shall be provided by the testing agency to the DEN Project Manager as specified in Part 1 of this Section Weekly Summary Reports. The test reports shall be numbered sequentially in chronological order. Individual tests shall be numbered sequentially. The reports and tests shall also be organized per specification section. All test results must be reviewed and signed by a registered licensed engineer in the State of Colorado. The signature represents that the test procedures used are in strict conformance with the applicable testing standard, the calculated data are true and accurate, the tools and equipment used were in calibration, the sample was not contaminated and the persons running the test were qualified.
- E. A plan of work and administrative procedure shall be established to assure that all test and inspections frequency required are performed and all defects are tracked and retested and re-inspected to meet all applicable specifications, codes, and standards.
- F. The Contractor shall track all tests performed on the daily reports and shall submit a statement for each phase of the Work showing all elements of Quality have been completed and all defects are addressed or scheduled to be addressed prior to covering the Work.
- G. Reports of inspections and test activities are record documents and shall be maintained in a manner that provides integrity of item identification, acceptability, and traceability. Reports shall identify the following:

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1. Contractor's name.
2. DEN Contract number and title.
3. Testing Agency name.
4. Name of items inspected/tested including a physical description and, as applicable, model and make.
5. Quantity of items.
6. Inspection/test procedure used. If national standards are used, any deviation from these standards.
7. Date the sample was taken and the date the test was made.
8. Location, by coordinates, building grid or station number, of where tests and/or samplings were performed including environmental condition where applicable. Include plan drawing indicating location of test and work item sampled or tested.
9. Name of inspector/tester.
10. In the event the testing or sampling is a re-test or re-sampling, reference the previous respective testing or sampling report.
11. Specified requirements in the Contract that the item must meet. Include reference to technical specification section and paragraphs.
12. Acceptability.
13. Deviations/nonconformance.
14. Corrective action.
15. Evaluation of results.
16. All information required for the specific test as specified in the applicable ASTM standard.
17. Signature of authorized evaluator.

1.06 WEEKLY SUMMARY REPORTS

- A. The SIA/OTA shall prepare and submit to the DEN Project Manager a weekly summary report each week that summarizes by specification section all work activities and results for the quality control tests and inspections conducted during that period.
- B. The weekly summary report shall be submitted within two (2) weeks from the end of the reporting period. At a minimum, the weekly summary report shall identify all inspections, test types, test locations, testers, test results, specifications, whether the test passed or failed, quantity of materials placed and the number of tests performed for each material, and the material supplier, installer and Contractor.
- C. Re-tests shall be identified in a fashion that easily correlates to the failing test. Any failed tests that have not been corrected when the report is published shall be highlighted and noted in the cover letter of the report. The SIA shall identify costs of re-testing or additional site visits required due to scheduling changes by the Contractor. A current Corrective Action Report log (CAR) shall also be included in the weekly summary report.
- D. The weekly report shall be submitted per Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" requirements.

PART 2 - PRODUCTS (NOT USED)

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PART 3 - EXECUTION

3.01 CORRECTION OR REMOVAL OF NONCONFORMING MATERIAL

- A. The Contractor is obligated to correct or remove nonconforming materials, whether in place or not. If necessary, the DEN Project Manager will send written notification to the Contractor to correct or remove the defective materials from the Project. If the Contractor fails to respond, the DEN Project Manager may order correction, removal, and/or replacement of defective materials by others, in which case the Contractor shall bear all costs incurred related to the correction, removal and/or replacement of the defective materials.

3.02 PERFORMANCE

- A. If the DEN Project Manager determines that the SIA or its personnel are not effectively enforcing or performing the testing and documentation requirements specified in the Contract, the DEN Project Manager will, state in writing, the requirement for the Contractor to remove and replace SIA or such personnel at no cost to DEN.

3.03 CONTROL OF MEASURING AND TEST EQUIPMENT

- A. The SIA shall select measuring and test equipment in such a manner as to provide proper type, range, accuracy, calibration, and tolerance for determining compliance with specified requirements. Measuring and test devices shall be calibrated, adjusted and maintained at prescribed intervals prior to use based upon equipment stability and other conditions affecting measurement.
- B. Provisions shall be made for the proper handling and storage of equipment. Calibration shall be accomplished using certified standards that have a known traceable relationship to the National Institute of Standards and Technology. Every calibrated measuring and test device shall show the current status, date of last calibration and the due date for the next calibration. Calibration records shall be maintained onsite as quality records and shall be made available for inspection upon the DEN Project Manager's request.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 014545

SECTION 015050

MOBILIZATION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Section 012910 "Schedule of Values"

1.02 SUMMARY

- A. The Work specified in this Section consists of preparatory work and operations including, but not limited to the following:
 - 1. Those necessary for the movement of personnel, equipment, supplies, and incidentals to the work site.
 - 2. For the establishment of all offices, buildings and other facilities necessary for the Work on the Project.
 - 3. For all other work and operations that must be performed or costs incurred prior to beginning work on the various Contract items on the work site.

1.03 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. Submit a Mobilization Schedule a minimum of fourteen (14) days prior to first billing for mobilization.

1.04 DELIVERY

- A. Delivery to the work site of construction tools, equipment, materials, and supplies shall be accomplished in conformance with all local governing regulations.

PART 2 - PRODUCTS

2.01 PRODUCTS

- A. Provide construction tools, equipment, materials, and supplies of the type and quantities that will facilitate the timely execution of the Work.

PART 3 - EXECUTION

3.01 EXECUTION AND REMOVAL

- A. Provide personnel, products, construction materials, equipment, tools, and supplies at the work site at the time they are required and scheduled to be installed or utilized.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 015050

SECTION 015525

TRAFFIC CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of furnishing plans and designs for traffic control and haul routes, implementing these plans with all necessary personnel and equipment. Installation may require but not be limited to signage, cones, flaggers, signal lights, lighting and temporary roads.
- B. All Work must be in conformance with the "Manual of Uniform Traffic Control Devices for Streets and Highways" (MUTCD) and CDOT Standard Plans regarding traffic control.
- C. The Contractor must coordinate the Contractor's proposed traffic control needs with the needs of other contractors on the airport construction site in writing through the DEN Project Manager.
- D. Refer to Article 805 – Protection of Street and Road System in the General Contract Conditions, Current Edition.

1.03 QUALITY CONTROL

- A. Temporary signal work shall conform to CDOT Standard Plans and the current version of the CDOT Standard Specifications.
- B. Designate a qualified person to inspect and test traffic control devices daily and to ascertain that those devices are continuously operating, serviceable, in place, and clean.
- C. Provide certified personnel who will be responsible for design, implementation, and inspection of traffic control needs.

1.04 SUBMITTALS

- A. Refer to Technical Specifications Sections 013300 "Submittals" and 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. Submit a Traffic Control Plan (TCP) that includes, at a minimum, the following list of items for approval before starting Work. Submit an updated TCP when necessary to modify traffic operation or undertake a construction activity that creates a different traffic pattern:
 - 1. Traffic blockade and reductions anticipated to be caused by construction operations.
 - 2. Temporary detours.
 - 3. A Method of Handling Traffic (MHT) must be submitted and approved by the DEN Project Manager, which at a minimum will show and describe proposed location, dates, hours, and duration of detours, vehicular traffic routing, and management, traffic control devices for implementing detours and details of barricades.

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- C. Submit Haul Route Plan for both on- and off-site hauls. The Haul Route Plan shall be submitted 30 days prior to hauling any permanent material. The Plan shall be updated as the Contractor's plans change.
- D. Specific Traffic Considerations: The DEN Project Manager may require the Contractor to revise the Traffic Control Plan to address traffic considerations not included in the Contractor's plan.
- E. Shutdown requests for any impact to traffic must be submitted for approval a minimum of five days before the intended shutdown. These requests will be made through the DEN Project Manager.

PART 2 - PRODUCTS

2.01 TRAFFIC CONTROL DEVICES

- A. Devices including signs, delineators, striping, barriers, barricades, and high-level warning devices shall conform to the latest revision of the MUTCD and the latest revision of the Colorado Department of Transportation Standard Plans.

PART 3 - EXECUTION

3.01 TEMPORARY TRAFFIC CONTROL DEVICES

- A. Place temporary control devices in a manner that allows for the smooth flow of traffic at the posted speed limit, limiting hazards or abrupt changes in direction.
- B. Place traffic cones or delineators as directed by the MUTCD. Operate warning lights between sunset and sunrise.
- C. Place control devices so that approaching traffic is alerted to hazards and variances to normal traffic patterns.
- D. Clean and repair damaged devices or replace them with new devices within 24 hours, and provide flaggers or other mitigation as required to maintain safe traffic control until devices have been replaced.

3.02 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS

- A. Full-compliance striping is required at all times per the MUTCD.
- B. Temporary signs must be replaced with permanent signing within three days per the MUTCD.

3.03 FLAGGERS

- A. Furnish flaggers where required for safety and by the MHT.

3.04 CONSTRUCTION VEHICULAR TRAFFIC

- A. Restrict construction vehicles to approved haul routes.
- B. Any contractor requests for revisions or modifications to the approved airfield haul routes in the contract documents, or for airfield haul routes not otherwise depicted in the contract documents, must follow the change management process.

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3.05 CONTROLLING VEHICULAR AND PEDESTRIAN FLOW ADJACENT TO WORK SITE

- A. Ensure that construction operations will not impede normal traffic. Where work is in the area of pedestrian or occupant activity, the Contractor shall detail a plan for managing pedestrian traffic safely. Refer to Title 8 - Protection of Persons and Property, Section 801.1 in the General Contract Conditions, Current Edition.

3.06 SIGNS

- A. Refer to Title 8, Article 802 - Protective Devices and Safety Precautions in the General Contract Conditions, Current Edition.
 - 1. The Contractor must contact the DEN Project Manager a minimum of five (5) working days in advance of construction for installation, relocation, or removal of regulatory parking signs.
- B. Coordinate and pay any expense associated with the furnishing and installation of all parking regulatory signs, such as "No Stopping Any Time," etc., at the work site.
- C. Furnish and install any necessary advance detour or guidance signing.
- D. Authorize, modify, and install regulatory parking controls and vehicle turn restrictions.
- E. Implement those traffic control modifications outside of the traffic control zone that are necessary to manage diverted traffic.
- F. Clean and repair damaged signage or replace with new signage within 24 hours, and provide mitigation as required to maintain site safety until signage has been installed.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 015525

SECTION 015719

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Specifications Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Title 8 - Protection of Persons and Property in the General Contract Conditions, 2011 Edition, specifically the following articles:
 - 1. Article 806 - Protection of Drainage Ways
 - 2. Article 807 - Protection of Environment
 - 3. Article 808 - Hazardous and Explosive Materials or Substances
 - 4. Article 809 - Archaeological and Historical Discoveries
- C. Denver Municipal Airport System Rules and Regulations, Part 180-Environmental Management.
- D. DEN Environmental Management System (EMS)

1.02 SUMMARY

- A. The Work specified in this Section consists of identifying, and avoiding or mitigating adverse environmental impacts to air, water, soil, and other natural resources caused by construction activities.
 - 1. The Contractor, in conducting any activity on airport property or in conducting work for an airport project not on airport property, shall comply with all applicable airport, local, state, and federal rules, regulations, statutes, laws, and orders.
 - 2. Work shall not commence on any project until all FAA approvals have been received, applicable permits have been issued and signed by permittee, and all inspection requirements have been satisfied in accordance with State and local permitting requirements.

1.03 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. Within ten (10) days after Notice to Proceed on a task order, the Contractor shall submit the following if applicable, unless waived by the DEN Project Manager:
 - 1. Submittals pertaining to water quality management:
 - a. Construction Activities Stormwater Discharge Permit
 - 1) City and County of Denver
 - a) Sewer Use & Drainage Permit (SUDP)
 - b) Construction Activities Stormwater Discharge Permit (CASDP)
 - 2) Colorado Department of Public Health and Environment (CDPHE) Colorado Discharge Permit System (CDPS) Authorization to Discharge (Contractor need not submit a copy of the general permit or the general permit rationale)

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	<ul style="list-style-type: none"> a) CDPS General Permit for Stormwater Discharges Associated with Construction Activities b) CDPS General Permit for Associated with Non-Extractive Industrial Activity c) CDPS General Permit for Construction Dewatering Discharges (Prior to obtaining a CDPS General Permit for Construction Dewatering Discharges permit, the Contractor shall submit a draft permit application and the final permit application for DEN review and approval PRIOR to submittal to CDPHE. The Contractor need not submit a copy of the general permit or the general permit rationale. <p>3) Upon request the contractor shall provide the following documentation</p> <ul style="list-style-type: none"> a) Stormwater Management Plan (SWMP) b) CASDP Inactivation Request c) CDPS Notice of Termination d) Permit Transfer Application e) Modification Application f) Discharge Monitoring Reports (DMRs) g) A copy of the well permit from the state Division of Water Resources for every new well that diverts or for the monitoring of groundwater. (A draft copy of the Notice of Intent for any borehole structure filed with the state Division of Water Resources). h) Section 404 related permitting (Prior to obtaining a permit issued by the US Army Corps of Engineers, the contractor shall submit a draft copy of the application and coordinate with efforts DEN Environmental Services). <p>4) Revisions or amendments to the CASMP by the Contractor: At the completion of the Project, after final stabilization has been achieved and accepted in accordance with CASDP requirements, the Contractor shall submit a copy of the CASDP Inactivation Request.</p> <p>2. Submittals pertaining to sewage holding tanks associated with buildings and trailers: For purposes of this Section, the generic term “sewage holding tank” means “onsite wastewater treatment system (OWTS),” “individual sewage disposal system (ISDS),” “privy vault”, “septic tank”, or “septic system”:</p> <ul style="list-style-type: none"> a. Draft copy of the permit application for a sewage holding tank. b. Copy of the Sewer Use & Drainage Permit issued by the Denver Department of Public Works. c. Copy of the OWTS permit issued by the Denver Department of Environmental Health. <p>3. Submittals pertaining to air quality management:</p> <ul style="list-style-type: none"> a. Copy of any permit issued by the CDPHE Air Pollution Control Division (APCD) <p>4. Submittals pertaining to storage tanks and containers:</p> <ul style="list-style-type: none"> a. Copy of the approved application issued by the State of Colorado, Department of Labor and Employment, Division of Oil and Public Safety, for installation of petroleum, or other regulated substances, storage tanks located on airport property and used for the Project. b. Copy of permits issued by the Denver Fire Department for storage tank installations, storage tank removals, and hazardous materials use/storage. c. Copy of Spill Prevention, Control, and Countermeasure (SPCC) Plan for petroleum storage tanks and containers with capacity of 55 gallons of oil or greater located on airport property and used for the Project. <p>5. Copies of any other plans, permits, permit applications, correspondence with regulatory agencies, including violations, waste manifests, results of laboratory analyses, or other environmental documentation required for the Project not</p>

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previously identified herein.

1.04 RELATED DOCUMENTS

- A. Code of Federal Regulations (CFR) Publications, including, but not limited to, the following:
 - 1. 33 CFR 323 - Permits for discharges of dredged or fill materials into waters of the United States.
 - 2. 40 CFR - Protection of Environment.
 - 3. 49 CFR 171-180 Hazardous Materials Transportation Regulations.
- B. Colorado Revised Statutes, including, but not limited to, the following:
 - 1. Water Quality Control, Title 25, Article 8.
 - 2. Air Quality Control, Title 25, Article 7.
 - 3. Hazardous Waste, Title 25, Article 15.
 - 4. Noise Abatement, Title 25, Article 12.
 - 5. Petroleum Storage Tanks, Title 8, Article 20.5.
 - 6. Liquefied Petroleum Gas (LPG) Storage Tanks, Title 8, Article 20, Part 4.
 - 7. Solid waste regulations.
- C. City and County of Denver Executive Orders, including, but not limited to, the following:
 - 1. Executive Order No. 115 - Required Use of Denver-Arapahoe Disposal Site (Landfill).
 - 2. Executive Order No. 123 - Office of Sustainability and Citywide Sustainability Policy.
 - 3. Denver Revised Municipal Code, Title II, Sections 48-44 and 48-93 - Solid Waste.
 - 4. Denver Revised Municipal Code, Title II, Section 4-43 – Idling Restriction.
- D. City and County of Denver Construction Activities Stormwater Manual.
- E. Any other applicable rules, regulations, ordinances, and guidance must be followed as applicable.
- F. Refer to Section 013300 "Submittal Procedures" and 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- G. Refer to Section 017419 "Construction Waste Management" for waste management requirements

PART 2 - PRODUCTS

2.01 PRODUCTS

- A. Products required for the Work shall meet all Environmental Requirements.
- B. At a minimum, products for erosion and sediment control must conform to the technical requirements contained in the City and County of Denver "Construction Activities Stormwater Manual" and the current version of the "Mile High Flood District's Urban Storm Drainage Criteria Manual, Volume 3: Best Management Practices".

PART 3 - EXECUTION

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3.01 AIR POLLUTION CONTROLS

- A. The Contractor shall use appropriate control measures to comply with applicable air quality permit requirements. Additionally, the Contractor must be aware of the following procedures and techniques while conducting construction activities on DEN property. NOTE: Application of dust control measures should be discussed and outlined in the Dust Control Plan.
1. Apply water as needed to the construction site haul roads, disturbed surface areas and public access roads as needed to suppress dust. The use of chemical stabilizer can be requested by the Contractor. The type of stabilizer to be used and locations of use must be included in the Dust Control Plan, which must be approved by the DEN Project Manager prior to application.
 2. The Contractor shall suspend all earthmoving activities if wind speed exceeds 30 mph. For purposes of this Section, the generic term “earthmoving” means clearing, grubbing, excavation, topsoil removal, backfilling, embankment work, grading, trenching, drilling, and installation of borings. Contractors are expected to check wind speeds with the airport’s ramp tower to demonstrate compliance with this requirement. In addition, the Project may be shut down if two of three of the Runway Visual Range (RVR) instruments read visibility of 2,400 feet or less. The instruments are used by FAA Control Tower personnel to ensure safe aircraft operations. Costs for shutdowns due to wind velocities or RVR readings shall not be grounds for delay or extra cost claims.
- B. Burning of materials is strictly prohibited on DEN property.

3.02 WATER POLLUTION CONTROLS

- A. The Contractor shall conduct construction activities in accordance with all applicable permit requirements. In addition, the Contractor shall comply with the following procedures and requirements while conducting activities on DEN property:
1. Water encountered during construction cannot be discharged to the stormwater system or placed onto the ground surface without a permit AND prior written approval by the DEN Project Manager. If groundwater or stormwater is anticipated to be encountered and the Contractor desires to discharge it to the stormwater system or onto the ground surface, then the Contractor must obtain an appropriate CDPS discharge permit in advance of the discharge unless this activity is specifically authorized under the CDPS Construction Stormwater Permit.
 2. If water is encountered and the Contractor desires to discharge these waters to the sanitary sewer system, then the Contractor must obtain approval from DEN Environmental Services in advance of the discharge.
 3. The Contractor shall ensure that stormwater that comes in contact with storage areas does not become impacted and discharged to the stormwater sewer system or to an impervious surface. Furthermore, any materials in storage areas shall not be stored directly on the ground.
 4. The Contractor shall not operate any valves, sluice gates or other drainage appurtenances related to any DEN sewer system without the prior approval of both the DEN Project Manager and DEN Environmental Services. Any violation of this directive may result in the payment of a financial penalty by the Contractor if the State of Colorado assesses such a penalty.

3.03 EROSION CONTROL AND SEDIMENTATION CONTROL

- A. This Work consists of constructing, installing, maintaining and removing, if required, temporary and permanent control measures during the life of the Contract (and possibly

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- afterward) until the Contractor achieves final stabilization of the site to prevent or minimize erosion, sedimentation, and pollution of any state waters in accordance with all Environmental Requirements.
- B. The Contractor is responsible for compliance with all requirements in accordance with the CASDP, the City and County of Denver Construction Activities Stormwater Manual, the approved CASMP, and CDPS-issued permits.
 - C. Temporary facilities, including but not limited to storage areas, laydowns, borrow areas, and contractor offices and work yards, shall be managed in accordance with Section 015210 "Temporary Facilities".
 - D. Clean soil fill may be stockpiled in any area that has been previously approved and signed off by the DEN Section Manager of Construction, Design and Planning, and Environmental Services. Soil stockpiles are considered a potential pollutant source and must be addressed in the CASMP and/or SWMP.
 - E. Make immediately available, upon the DEN Project Managers request, all labor, material, and equipment judged appropriate by the DEN Project Manager to maintain suitable erosion and sediment control features. These actions requested by the DEN Project Manager take precedence over all other aspects of project construction that have need of the same labor, material and equipment, except those aspects required to prevent loss of life or severe property damage.

3.04 CONSTRUCTION OF CONTROL MEASURES FOR EROSION AND SEDIMENTATION

- A. The Contractor must install control measures in accordance with the most recent version of the "Mile High Flood District's Urban Storm Drainage Criteria Manual, Volume 3: Best Management Practices and the City and County of Denver Construction Activities Stormwater Manual".
 - 1. Deviations from these two documents are allowed with written consent from the City and County of Denver CASDP Inspector.

3.05 STORAGE OF OIL, FUELS, OR HAZARDOUS SUBSTANCES

- A. The Contractor shall prevent oil or other hazardous substances, as defined in federal and state regulations, from entering the ground, drainage or local bodies of water, and shall provide containment, diversionary structures, or equipment to prevent discharged oil from reaching a watercourse and take immediate action to contain and clean up any spill of oily substances, petroleum products, or hazardous substances. The Contractor shall provide one or more of the following preventive systems at each petroleum storage site:
 - 1. Dikes, berms, or retaining walls capable of containing at least 100% of the volume of the largest single tank and equipped with sufficient freeboard to contain precipitation events. The secondary containment must be "sufficiently impermeable" to prevent a release to the environment.
 - 2. Culverting, curbing, guttering, or other similar structures capable of containing at least 100% of the volume of the largest single tank and freeboarding from precipitation.
- B. The provision of such preventive systems shall be subject to acceptance by the DEN Project Manager prior to tank installation and shall follow the SPCC regulations (40 CFR Part 112).
- C. Prior to bringing any containers of 55-gallon or above capacity onto DEN property for storage of oil, fuel, or other petroleum substances, the Contractor may be required to prepare an SPCC Plan that conforms to 40 CFR Part 112. The plan must include a

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SECTION 015719 - TEMPORARY ENVIRONMENTAL CONTROLS

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certification either from a Professional Engineer or self-certification, if applicable, as well as management approval from the legally responsible Contractor representative.

3.06 SPILL RESPONSE AND NOTIFICATION

- A. The Contractor is responsible for all spills that may result from its activities. For ANY suspected or confirmed release or spill of oil, fuel, solid waste, hazardous waste, unknown materials, lavatory waste, or miscellaneous chemicals, etc., that occurs as the result of the Contractor's activities on DEN property, the Contractor is required to take immediate action to mitigate the release or spill and report it to the DEN Project Manager and to the DEN Communications Center at (303) 342-4200.
- B. The Contractor is responsible for notifying the appropriate regulatory agency in the event suspected and/or confirmed releases are identified, in accordance with regulatory requirements.

3.07 SITE REMEDIATION AND RESTORATION

- A. The Contractor shall be required to perform any necessary site assessment and remediation activities required by applicable regulatory agency.
- B. During routine construction activities, the Contractor is required to manage soils using typical construction techniques. The Contractor must differentiate between soils and wastes, including contaminated soils versus clean soils, and determine those materials that can remain on DEN property and those that must be transported off site for disposal.
- C. During all construction activities that require the management of soils, the Contractor must notify the DEN Project Manager and DEN Environmental Services (ES) that soils being managed may be impacted by industrial activities conducted at the airport. "Process knowledge" pertaining to previous use and/or impact for the locations under construction can be used to determine whether impacted soils are probable. Also, common indices such as soil staining and odor can be used as a determination for the probable condition. If probable contamination conditions are suspected, the Contractor will notify the DEN Project Manager and DEN ES immediately. At that time, which may be before the Work is initiated where indicative conditions exist, all work will cease until a sampling and analysis approach is determined and implemented by the proper responder.
- D. If the site conditions warrant based on evidence of spillage or contamination, process knowledge, and/or visual or olfactory observations, the Contractor may be required to conduct sampling and analysis to confirm that no remedial action is required. Prior to conducting any removal activities, the Contractor must provide a Scope of Work to the DEN Project Manager describing the proposed site assessment activities.
- E. The impacted project will modify its operation to include a segregation area where probable impacted soils can be placed, stored, and sampled for characterization. Should the soil materials be determined to exceed the applicable standards, the DEN Project Manager, in conjunction with DEN ES, will be responsible for the proper disposal of these materials. Materials that are determined to contain contamination levels below the applicable standards can be considered clean soils and placed back into the excavation or reused elsewhere on DEN property. In accordance with Part 3 of this Section, materials removed that are suitable for recycling will be placed within areas designated on DEN to store these materials.
- F. The Contractor shall restore any area on the Airport that becomes contaminated as a result of its operations. Restoration shall be either to applicable standards under federal and state law or to such other levels as may be required by the Manager of Aviation, at the Manager's

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sole discretion. Such restoration shall be completed at the earliest possible time, and the Contractor's restoration shall be subject to inspection and approval by the Manager of Aviation or duly authorized representative. See DEN Rules & Regulations - Part 180.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 015719

SECTION 015810**TEMPORARY SIGNS****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes requirements for the following:
 - 1. Construction signage visible to the public.
 - 2. Temporary directional, informational, or regulatory signage.
- B. Related Requirements:
 - 1. Section 015210 "Temporary Facilities" for requirements for temporary facilities.

1.03 SUBMITTALS

- A. Submit temporary sign finishes, materials and paint, etc., for review and approval by DEN Project Manager prior to any fabrication.

1.04 QUALITY CONTROL

- A. Construction and other temporary signage visible to the public must be commercial grade quality, professionally fabricated, and installed based on the location of the sign. The Contractor is responsible to maintain this signage until it is no longer needed, and to remove signage from the site.

PART 2 - PRODUCTS**2.01 GENERAL**

- A. Interior signs that are visible and not physically accessible to the public may be made of rigid board, such as "Gator Board", with vinyl messages. All edges must be finished and all fasteners concealed.
- B. Interior signs that are visible and physically accessible by the public must be vandal-proof. Acceptable examples of vandal-proof signs are messages applied second surface with concealed tamperproof fasteners.
- C. Exterior signs must be vandal-proof and fabricated of weatherproof materials.

PART 3 - EXECUTION**3.01 HARDWARE**

- A. Interior Signs: Attach with suitable adhesive and/or tape which may be removed without damage to finishes.

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- B. Exterior Signs: Must be secured to withstand site conditions and varying weather conditions.

3.02 SIGN FINISHES, MATERIALS, AND PAINT

- A. Provide temporary signage to reflect permanent sign design and/or as directed by the DEN Signage Design Project Manager. Submit temporary sign finishes, materials and paint, etc., for review and approval prior to any fabrication.

3.03 MAINTENANCE

- A. The Contractor shall maintain temporary signage until it is no longer needed, as determined by DEN Project Manager.

3.04 REMOVAL

- A. The Contractor shall remove all temporary signs, and clean and refurbish affected areas to their original, or intended, condition.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 015810

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
1. Section 012300 "Alternates" for products selected under an alternate.
 2. Section 012510 "Substitutions" for requests for substitutions.
 3. Section 014225 "Reference Standards" for applicable industry standards for products specified.

1.03 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.04 SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number, title, and Drawing numbers and titles.
1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

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- 2. DEN Project Manager's Action: If necessary, DEN Project Manager will request additional information or documentation for evaluation within one week of receipt of a comparable product request. DEN Project Manager will notify Contractor[through Construction Manager] of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if DEN Project Manager does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.05 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - 2. If a dispute arises between contractors over concurrently selectable but incompatible products, DEN Project Manager will determine which products shall be used.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger the Project, including the structure.
 - 3. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.

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- 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 6. Protect stored products from damage and liquids from freezing.
- 7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.07 PRODUCT WARRANTIES

- A. Refer to Title 18 - Warranties, Guarantees and Corrective Work of the General Contract Conditions, 2011 Edition.
- B. Submittal Time: Comply with requirements in Section 017720 "Contract Closeout."

PART 2 - PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged, and unless otherwise indicated, are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," DEN Project Manager will make selection.
 - 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
 - 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - 3. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

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- C. Visual Matching Specification: Where Specifications require "match DEN Project Manager's sample", provide a product that complies with requirements and matches DEN Project Manager's sample. DEN Project Manager's decision will be final on whether a proposed product matches.
 - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012510 "Substitutions" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by DEN Project Manager from manufacturer's full range" or similar phrase, select a product that complies with requirements. DEN Project Manager will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

- A. Conditions for Consideration: DEN Project Manager will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, DEN Project Manager may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

2.03 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to DEN Project Manager for the visual and functional performance of in-place materials.

PART 3 - EXECUTION (NOT USED)

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

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- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 016000

SECTION 016610

STORAGE AND PROTECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of providing storage and protection of the materials, products and supplies which are to be incorporated into the construction and indicating such storage areas on the working drawings with the location and dates when such areas will be available for each purpose.
- B. Related Requirements:
- C. Section 015210 "Temporary Facilities" for requirements for temporary facilities.

1.03 SUBMITTALS

- A. Refer to Technical Specifications Sections 013300 "Submittal Procedures" and 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures. Submit concurrently with submittals required in Section 013223 "Construction Layout, As-built and Quantity Surveys".
- B. Submit working drawings showing locations of storage areas not indicated on the Contract Drawings.
- C. Submit descriptions of proposed methods and locations for storing and protecting products.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials required for the storage and protection of the items specified shall be durable, weatherproof and either factory finished or painted to present an appearance acceptable to the DEN Project Manager and the City. Storage facilities shall be uniform in appearance with similar materials used to the maximum extent possible.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS OF EXECUTION

- A. Palletize materials, products, and supplies that are to be incorporated into the construction immediately so they are stored off the ground. Material and equipment shall be stored only in those areas that are indicated as storage areas on the Contract Drawings and on the reviewed and accepted working drawings.
 - 1. Store these items in a manner which will prevent damage and facilitate inspection.

- 2. Leave seals, tags, and labels intact and legible.
 - 3. Maintain access to products to allow inspection.
 - 4. Protect products that would be affected by adverse environmental conditions.
- B. Periodically inspect stored products to ensure that products are being stored as stipulated and that they are free from damage and deterioration.
 - 1. Any damaged or deteriorated materials must be replaced immediately to avoid delays in the project schedule.
- C. Do not remove items from storage until they are to be incorporated into the Work.
- D. The Contractor shall ensure that all protective wrappings and coverings are secure and ballasted to prevent any items from deterioration and/or subsequent dislodgment. All items on the work site that are subject to becoming windborne shall be ballasted or anchored.

3.02 HANDLING AND TRANSPORTATION

- A. Handling:
 - 1. Avoid bending, scraping, or overstressing products. Protect projecting parts by blocking with wood, by providing bracing or by other approved methods.
 - 2. Protect products from soiling and moisture by wrapping or by other approved means.
 - 3. Package small parts in containers such as boxes, crates, or barrels to avoid dispersal and loss. Firmly secure an itemized list and description of contents to each container.
- B. Transportation:
 - 1. Conduct the loading, transporting, unloading, and storage of products so that they are kept clean and free from damage.

3.03 STORAGE

- A. Store items in a manner that shall prevent damage to DEN's property. Do not store hydraulic fluids, gasoline, liquid petroleum, gases, explosives, diesel fuel, and other flammables in excavations. Petroleum products and chemicals must be stored in closed containers within secondary containment.
- B. Provide sheltered weather-tight or heated weather-tight storage as required for products subject to weather damage.
- C. Provide blocking, platforms or skids for products subject to damage by contact with the ground.
- D. All material shall be stored according to the manufacturer's recommendations. Any material that has to be stored within specified temperature or humidity ranges shall have a 24-hour continuously written recording made of the applicable condition. Should the recording show that the material was not stored within the recommended ranges the material shall be considered defective and in nonconformance. If a certification from the manufacturer's engineering design representative is provided stating that the actual variations are acceptable and will in no way harm the material or affect warranties, then the deficiency will be considered corrected.
- E. Store hazardous material separately, with all material marked with a label showing the hazard and how to treat exposure to the material. Store incompatible materials separately.

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- F. Extra materials that are left over at the completion of the Work shall be removed from the Project site by the Contractor unless they are required to be delivered to DEN as per Contract Document requirements for maintenance stock.

3.04 LABELS

- A. Flammable and combustible substances shall be stored in flammable storage cabinets that conform to OSHA requirements and shall be labeled "FLAMMABLE - KEEP FIRE AWAY" and "NO SMOKING".

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 016610

SECTION 017330

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Refer to Article 316, Cutting and Patching the Work in the General Contract Conditions, 2011 Edition

1.02 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Phased construction.
 - 4. Work by DEN.
 - 5. Work under separate contracts.
 - 6. Future work.
 - 7. Purchase contracts.
 - 8. DEN-furnished products.
 - 9. Contractor-furnished, DEN-installed products.
 - 10. Access to site.
 - 11. Coordination with occupants.
 - 12. Work restrictions.
 - 13. Specification and drawing conventions.
 - 14. Miscellaneous provisions.
- B. Related Requirements:
 - 1. Section 015210 "Temporary Facilities" for limitations and procedures governing temporary use of DEN's facilities.
 - 2. Section 015719 "Temporary Environmental Controls" for environmental control requirements.
 - 3. Section 024119 "Selective Demolition" for selective demolition of structures and other elements.
 - 4. Section 099123 "Interior Painting" for interior painting of areas of cutting and patching.
- C. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by Alternates.

1.03 DEFINITIONS

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- A. Cutting: Removal of existing construction to permit installation of or to perform other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.04 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. Cutting and Patching Proposal: Submit a proposal describing procedures at least thirty (30) calendar days before the time cutting and patching will be performed, requesting approval to proceed. Obtain approval of the cutting and patching proposal by DEN Project Manager before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work or repair of other work damaged by unsatisfactory work. The proposal shall include at least the following information:
 - 1. Identification of the Contract and the Contractor's name.
 - 2. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. The necessity for cutting or alteration.
 - c. Drawing showing location of the requested cutting or alteration
 - d. Trades that will execute the work.
 - e. Products proposed to be used.
 - f. Extent of refinishing to be done.
 - g. Alternatives to cutting and patching.
 - 3. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
 - 4. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted and proposed dates of interruption of service. Additionally, verify and locate anything in or behind the area prior to cutting.
 - 5. Proposed Dust Control and Noise Control Measures: Submit a statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
 - 6. Effect on the work and other surrounding work or on structural or weatherproof integrity of Project.
 - 7. Written concurrence of each contractor or entity whose work will be affected.
 - 8. Cost proposal, when applicable.

1.05 QUALITY CONTROL

- A. Operational Elements: Do not cut and patch ANY operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance, decreased operational life or safety unless approved by the DEN Project Manager. Operations elements may include, but are not limited to the following:
 - 1. Primary operational systems and equipment.
 - 2. Control systems.

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3. Communication systems.
 4. Operating systems of special construction as described in Divisions 13 and 26.
- B. Miscellaneous Elements: Do not cut and patch ANY of the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or those results in increased maintenance, decreased operational life or safety unless approved by the DEN Project Manager. Miscellaneous elements may include, but are not limited to the following:
1. Membranes and flashings.
 2. Equipment supports.
 3. Piping, ductwork, vessels and equipment.
 4. Noise control and vibration control elements and systems.
- C. Visual Elements: Do not cut and patch ANY construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would reduce, in DEN's sole opinion, the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactorily manner.
1. If possible, retain the original installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced, and specialized firm as approved by the DEN Project Manager. Visual elements may include, but are not limited to:
 - a. Stonework and stone masonry.
 - b. Ornamental metal.
 - c. Matched-veneer woodwork.
 - d. Preformed metal panels.
 - e. Firestopping.
 - f. Window wall systems.
 - g. Terrazzo.
 - h. Flooring.
 - i. Wall coverings and finishes.
 - j. HVAC enclosures, cabinets, or covers.
- D. Cutting and Patching Conference: Before proceeding, meet at the Project site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.06 WARRANTY

- A. Existing Warranties: Remove, replace, patch and repair materials and surfaces cut or damaged during cutting and patching operations by methods and with materials so as not to void existing warranties.
1. All effort shall be made to engage the original installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition. If it is impossible to engage the original installer or fabricator, engage another recognized, experienced and specialized firm as approved by the DEN Project Manager:
 - a. Processed concrete finishes.
 - b. Stonework and stone masonry.
 - c. Ornamental metal.

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- d. Matched-veneer woodwork.
- e. Preformed metal panels.
- f. Firestopping.
- g. Window wall systems.
- h. Terrazzo.
- i. Flooring.
- j. Wall coverings and finishes.
- k. HVAC enclosures, cabinets, or covers.

1.07 MATERIALS

- A. General: All patching material shall be of the type specified for the material being patched. Comply with requirements specified in other specifications Sections.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually and texturally match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials as approved by the DEN Project Manager.:

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers. Provide additional substrates or materials if required to achieve desired final results of patching work.
 - 2. Immediately notify the DEN Project Manager, in writing, of unsuitable, unsafe, or unsatisfactory conditions.
 - 3. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.
 - 4. Proceed with patching only after construction operations requiring cutting are complete and inspected by the DEN Project Manager.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut to ensure structural value or integrity.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

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- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid or minimize interruption of services to occupied areas. Do not interrupt services in without approval from the appropriate authority. Refer to the appropriate Shutdown specification/procedures for applicable services.

3.03 POLLUTION CONTROLS

- A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations. Reference Section 015719 "Temporary Environmental Controls" for requirements.
 - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions such as ice, flooding, and pollution.
 - 2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosures. Vacuum carpeted areas. Professionally clean carpeted areas if required.
 - 3. For outdoor concrete saw cutting operations, slurry waste must be vacuumed up immediately to prevent migration off-site to pervious surfaces, surface waters or drains.
- B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 1. Concrete slurry waste must be disposed of properly in accordance with applicable airport, local and state rules and regulations.
- C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to the condition existing before selective demolition operations began.

3.04 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Execute cutting and demolition by methods that will prevent damage to other work and will provide a proper surface to receive patching.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
 - 2. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerance, and finishes.
 - 3. Restore work that has been cut or removed; install new products to provide complete work in accordance with requirements of the Contract Documents.
 - 4. Fit work airtight and fire safe to pipes, sleeves, ducts, conduit, and other penetrations through surfaces as required by the Contract Documents.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and other similar operations, including excavation, using methods least likely to damage elements retained to adjoining construction. If possible, review proposed procedures with original installer and comply with original installer's written recommendations.
 - 1. In general, use ground fault hand or small power tools designed (to short if metal is hit) for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to the size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

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2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete: Use a cutting machine such as an abrasive saw or a diamond-core drill.
 4. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other specification Sections.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing. For continuous surfaces, refinish entire unit to the nearest break line. For an assembly, refinish entire unit.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs on a painted surface, apply primer and intermediate paint coats over the patch and apply the final coat over the entire unbroken surface containing the patch. Provide additional coats until the patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Fire Rated Construction: Where rated elements are cut, reconstruct to approved designs to provide original fire rating.

3.05 CORE DRILLING

- A. The Contractor shall execute sufficient x-rays or ground penetrating radar (GPR) at each location planned for core drilling prior to submittal to the DEN Project Manager and to utility representatives for approval for core drilling. The request for approval shall be submitted a minimum seven (7) days before Core Drilling. The request for approval shall indicate on the x-ray or radar information regarding alternate locations or core drilling to avoid structural members and any embedded conduit. Embedded conduit may be metallic or plastic. The x-ray or radar system shall be capable of detecting both types of conduit.
- B. Core drilled "cores" and the core-drilled opening shall be inspected by DEN Project Manager Representatives prior to installation of any systems in new openings.
- C. The request for approval shall indicate on the x-ray or radar information regarding alternate locations or core drilling to avoid structural members and any embedded conduit. Embedded conduit may be metallic or plastic. The x-ray or radar system shall be capable of detecting both types of conduit.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

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PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017330

SECTION 017419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This section describes the requirements for the disposal, recovery, reuse or recycling of **non-hazardous** and **non-asbestos** containing construction and demolition waste
- B. Waste materials shall be managed in accordance with all local, state, and federal regulations.
- C. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submittal procedures.
 - 2. Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures
 - 3. Section 015719 "Temporary Environmental Controls" for environmental control procedures.

1.3 SECTION 016610 "STORAGE AND PROTECTION" FOR REQUIREMENTS RELATED TO MATERIALS STORAGE AND PROTECTION.DEFINITIONS

- A. Solid Waste: means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, air pollution control facility, or other discarded material; including solid, liquid, semisolid, or contained gaseous material resulting from industrial operations, commercial operations or community activities. Solid waste does not include any solid or dissolved materials in domestic sewage, or agricultural wastes, or solid or dissolved materials in irrigation return flows, or industrial discharges which are point sources subject to permits under the provisions of the "Colorado Water Quality Control Act", Title 25, Article 8, CRS or materials handled at facilities licensed pursuant to the provisions on "Radiation Control Act" in Title 25, Article 11, CRS. Solid waste does not include:
 - 1. Materials handled at facilities licensed pursuant to the provisions on radiation control in Article 11 of Title 25, C.R.S.
 - 2. Excluded scrap metal that is being recycled.
 - 3. Shredded circuit boards that are being recycled.
- B. Salvaged Materials: Defined as materials that exist on the site that can be reused, either on site or by another entity
- C. Recyclable Materials: Defined as materials that exist on site or are generated during the construction process that can be recycled and/or remanufactured into another material. Recyclable waste includes, but is not limited to, the following:
 - 1. Concrete.
 - 2. Asphalt

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3. Ferrous and non-ferrous metals.
 4. Untreated wood, engineered wood.
 5. Gypsum wallboard.
 6. Corrugated cardboard, paper goods.
 7. Plastic.
 8. Glass, insulation.
 9. Carpet.
 10. Paints, fabric.
 11. Rubber.
 12. Stone and brick.
- D. Hazardous Waste: Per 6 CCR 1007-3, those substances and materials defined or classified as such by the Hazardous Waste Commission pursuant to 25-15-302, C.R.S., as amended. Also, see hazardous waste definition per 40 CFR 261.3.
- E. Asbestos Containing Materials: Per 5 CCR 1001-10: Regulation No. 8, The Control of Hazardous Air Pollutants, Part B The Control of Asbestos- material containing more than 1% asbestos

1.4 SUBMITTALS

- A. Prior to the start of construction activities, the Contractor shall submit a list of materials and products used with Safety Data Sheets (SDS). Examples include chemicals, solvents, fuels, building materials, etc.
1. An electronic copy or link to the SDS for all materials and products used, if applicable.
 2. Identify storage methods for materials, including measures to segregate incompatible materials.
- B. Prior to the start of any waste generating activities, the Contractor shall submit a Waste Management Plan to the DEN Project Manager and DEN Environmental Services. Minimum Waste Management Plan requirements include the following:
1. A list of all waste streams generated by the project
 - a. For each construction activity, the Contractor shall identify the waste stream that will be generated, waste handling and transportation method, disposal method, and identify the disposal facility utilized.
 - b. If the Contractor anticipates generation of hazardous waste, the Contractor shall provide its EPA Generator Identification Number.
 2. Pollution Prevention Measures
 - a. Describe best practices that will reduce waste. For example, waste reduction measures, requiring vendors to deliver materials in reusable packaging, etc.
 3. Waste Management Plan Training.
 4. Storage of materials.
 5. Spill response and Training
- C. Approval of Contractor's Waste Management Plan does not relieve the contractor of responsibility for compliance with applicable environmental regulations.
1. The contractor shall maintain a record of the amounts of construction and demolition

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waste generated, recycled, reused, salvaged, or disposed of, in pounds for review.
The Contractor shall submit at the end of the project a summary of these records.
The summary should include at a minimum the type of waste, quantity, method of disposal, date and location of disposal, and calculation of the waste diversion rate.

Waste diversion rate is calculated as the amount of material (in tons) diverted from landfill or incineration divided by the total material generated. Diverted materials can include all material that is recycled, composted, chipped, or in any way used in a higher and better use than landfilling or incineration.

PRODUCTS

1.5 DOCUMENTS

- A. A list of all materials and products used. Examples include chemicals, solvents, fuels, curing compounds, etc.
 - 1. An electronic copy or link to SDSs for all materials and products used.
 - 2. Identify storage methods, including measures to segregate incompatible materials.
 - 3. Refer to the Waste Management Plan

PART 2 - EXECUTION

2.1 REQUIREMENTS

- A. The Contractor shall not wash down equipment in such a manner as to flush grease, oils, detergents, and other contaminants onto the project site or onto airport property unless the waste is properly contained, treated, and disposed of.
- B. DEN maintains two dry concrete and asphalt recycling yards used for the accumulation and crushing of asphalt and concrete. The South Yard is located on 71st Ave just east of Jackson Gap Street. The North Yard is located on the south side of 110th, west of Queensburg Street.
- C. Concrete washwater cannot be discharged to surface waters or to storm sewer systems. Colorado Discharge Permit System (CDPS) coverage conditionally authorizes discharges to the ground of concrete wash water from washing of tools and concrete mixer chutes when appropriate best management practices (BMPs) are implemented.
 - 1. A bermed containment area that allows discharge water to infiltrate or evaporate;
 - a. Alternatives to bermed containment areas include portable concrete washout bins, and industrial washout containment systems where the accumulated waste is removed from the site and disposed of properly.
 - 2. Use of the washout site should be temporary (less than one year);
 - 3. The washout site should not be located in an area where shallow groundwater may be present, such as near natural drainages, springs, or wetlands
 - 4. Upon termination of the washout site, accumulated solid waste, which includes concrete waste and contaminated soils, must be removed from the site and disposed of properly.
- D. Rejected loads and/or other wet concrete or asphalt materials are PROHIBITED on DEN property. These materials must be returned to the facility of origination or other permitted facility for proper disposal.

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- E. Concrete slurry generated from sawcutting activities is accepted at the DEN North and South Concrete and Asphalt Recycle Yards at designated areas only. Prior notification and approval is required.
- F. Any wastewater generated from construction activities may not be disposed of anywhere on DEN property, except as allowed by any permit (e.g. dewatering permit). These materials must be properly disposed of offsite.
- G. Soil or water that is determined to be contaminated with materials not formally designated as hazardous must have specific waste management practices identified and included in the Waste Management Plan. This includes but is not limited to petroleum products and per- and polyfluoroalkyl substances (PFAS).
- H. Unknown or questionable materials encountered during construction activities must be immediately reported to the DEN Communications Center at (303) 342-4200 and the DEN Project Manager.

PART 3 - MEASUREMENT

3.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 4 - PAYMENT

4.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017419

SECTION 017420

CLEANING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this section consists of maintaining a clean, orderly, hazard free work site during construction, and final cleaning for the City's Final Acceptance. Failure to maintain the work site will be grounds for withholding monthly payments until corrected to the satisfaction of the DEN Project Manager.
- B. Refer to Article 325, Cleanup During Construction in the General Contract Conditions, 2011 Edition

1.03 SUBMITTALS

- A. Washing Plan: The Contractor shall prepare a plan describing the specific procedures and materials to be utilized for any equipment, vehicle, etc., washing activities. The plan must be submitted to the DEN Project Manager and approved by the DEN Project Manager and Environmental Services.
 - 1. Outdoor washing at DEN is not allowed unless the materials will be collected or managed in a manner to ensure that they will not enter the municipally owned separate storm sewer system (MS4). The materials can only be disposed at a location pre-approved by DEN Environmental Services (refer to DEN SWMP). Failure to comply with this requirement would result in the discharge of non-stormwater.
 - a. Outdoor wash materials that contain soaps or other cleaning chemicals must be collected and disposed of off site
 - 2. Indoor washing must be conducted in accordance with the Best Management Practices (BMPs) detailed in the DEN SWMP. Refer to Section 015719 "Environmental Controls". In addition, all indoor washing must be conducted in a manner that ensures that there are no prohibited discharges to the sanitary sewer system.
 - a. All wash-water that will be disposed of into the sanitary sewer must comply with City and County Denver rules and regulations pertaining to prohibited discharges.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS

- A. Utilize the type of cleaning materials recommended by the manufacturer for the surfaces to be cleaned.
- B. Maintain current Safety Data Sheets (SDS) on site for all chemicals. DEN Environmental Services must approve the chemicals used prior to discharge to the sanitary sewer system.

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- C. Ensure proper disposal of all wastes generated from the use of these materials. The Contractor must ensure compliance with all environmental regulations. No wastes can be disposed of on DEN property.

PART 3 - EXECUTION

3.01 INTERIM CLEANING

- A. Clean only when dust and other contaminants will not precipitate upon newly painted surfaces.
- B. Cleaning shall be done in accordance with manufacturer's recommendation.
- C. Cleaning shall be done in a manner and using such materials as to not damage the Work.
- D. Clean areas prior to painting or applying adhesive.
- E. Clean all heating and cooling systems prior to operations. If the Contractor is allowed to use the heating and cooling system, it shall be cleaned prior to testing.
- F. Clean all areas that will be concealed prior to concealment.
- G. Dispose of all fluids according to the approved Washing Plan.

3.02 FINAL CLEANING

- A. Refer to Article, Clean-up Upon Completion in the General Contract Conditions, 2011 Edition. Additionally, the Contractor, shall at a minimum, complete the following:
 - 1. Inspect interior and exterior surfaces, including concealed spaces, in preparation for completion and acceptance.
 - 2. Remove dirt, dust, litter, corrosion, solvents, discursive paint, stains, and extraneous markings.
 - 3. Remove surplus materials, except those materials intended for maintenance.
 - 4. Remove all tools, appliances, equipment, and temporary facilities used in the construction.
 - 5. Remove detachable labels and tags. File them with the manufacturer's specifications for that specific material for the City's records.
 - 6. Repair damaged materials to the specified finish or remove and replace.
 - 7. After all trades have completed their work and just before Final Acceptance, all catch basins, manholes, drains, strainers and filters shall be cleaned; roadway, driveways, floors, steps and walks shall be swept. Interior building areas shall be vacuum cleaned and mopped.
 - 8. Final cleanup applies to all areas, whether previously occupied and operational or not.
 - 9. Dispose of all fluids according to the approved Washing Plan.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017420

**SECTION 017720
CONTRACT CLOSEOUT**

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Special Sections, apply to this Section.

1.02 SUMMARY

- A. Work specified in this Section includes procedures required prior to Final Acceptance of the Work in addition to those specified in Title 20 – Final Completion and Acceptance of The Work in the General Contract Conditions, 2011 Edition, and Technical Specification Section 017840 "Contract Record Documents".
- B. This Section also includes procedures and penalties to ensure prompt completion of the Project Closeout.
- C. Related Sections:
 - 1. Title 20 of the General Contract Conditions, 2011 Edition..
 - 2. Section 017840 "Contract Record Documents" for required record documents.
 - 3. Form CM-75, Closeout Checklist
- D. SUBMITTALS
 - 1. Submit written Certification to the DEN Project Manager that, in the opinion of the Contractor, the Work is complete.
 - 2. Submit final survey within 60 days after issuance of Substantial Completion.
 - 3. Submit a Final Statement of Accounting to the DEN Project Manager.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PREPARATION FOR FINAL INSPECTION

- A. Before requesting inspection for Final Acceptance of the Work by the City, the Contractor shall inspect, clean, and repair the Work as required.
- B. The Contractor shall ensure that all items on the Closeout Checklist have been addressed and accepted by the DEN Project Manager.

3.02 FINAL INSPECTION

- A. The Contractor shall submit written certification to the DEN Project Manager when, in the opinion of the Contractor, the Work is complete. Such communication shall certify that:
 - 1. The Work has been inspected by the Contractor for conformance with the Contract Documents.

2.

The Work has been completed in conformance with the Contract Documents, including all punchlist items.

3.

The Work is ready for final inspection by the City.

4.

All as-built documents have been submitted and accepted.

5.

All damaged or destroyed real, personal, public, or private property impacted by the Work has been repaired or replaced.

6.

All Warranties and Bonds have been completed, executed, submitted, and accepted.

7.

All personnel badges and vehicle permits have been returned to DEN Airport Security.
- B.

The DEN Project Manager will inspect the Work in accordance with the Section 2002.1 of the City and County of Denver’s Department of Aviation’s General Contract Conditions.
- C.

If the DEN Project Manager finds incomplete or defective Work:

1.

The DEN Project Manager may, at the DEN Project Manager's sole discretion, either terminate the inspection, or prepare a punchlist and notify the Contractor in writing, listing the incomplete or defective Work.

2.

The Contractor shall take immediate steps to remedy all identified deficiencies and resubmit a written certification to the DEN Project Manager that Work is complete.

3.

The DEN Project Manager will then re-inspect the Work.

3.03 REINSPECTION FEES

- A.

Should the DEN Project Manager be required to perform re-inspections of the Work due to the Contractor prematurely claiming the status of the Work to be complete:

1.

The Contractor shall compensate the City for such additional services, on a time and materials basis, for the time spent by the DEN Project Manager on re-inspection and related work, with a minimum charge of \$2500:

Position	
Project Manager	
Quality Assurance Inspector	
Commissioning Agent	

2.

The City shall deduct the amount of such compensation from the final payment to the Contractor.

3.04 FINAL SURVEY FEES

- A.

The Contractor shall complete and submit the final survey within 60 days after issuance of Substantial Completion. If the Contractor fails to complete and submit the final survey within this time frame it is understood that DEN will arrange for a qualified surveying company to complete this work at the Contractor’s expense. All costs associated with DEN arranging for and completing the final survey will be deducted from the final payment including compensation due the City for the DEN Project Manager’s time to manage this work.

1.

The DEN Project Manager’s rate of compensation shall be set at \$150.00 per man-hour.

2.

Survey submittals needing to be revised may extend the 60-day time frame at the DEN Project Manager’s discretion.

3.

Costs, including the DEN Project Manager’s, for the review of the resubmitted survey shall be deducted from the final payment.

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3.05 LATE CLOSEOUT FEES

- A. Within 100 days after issuance of substantial completion, all documentation required by this Contract to achieve Project Closeout shall be submitted. Failure to submit all required documentation shall result in fees to compensate the City for project management work while the project remains open. These shall be assessed if no liquidated damages are provided or and paid for late completion.
 - 1. Fees at the rate of \$450 per day to compensate for additional DEN Project Manager, consultant, and other personnel's work.
 - 2. The resubmittal of required documents may extend the 100-day time frame at the DEN Project Manager's discretion.

3.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a Final Statement of Accounting to the DEN Project Manager.
- B. The Final Statement of Accounting shall reflect all adjustments to the Contract amount and shall include the following:
 - 1. The original Contract Value.
 - 2. Additions and deductions resulting from the following:
 - a. Approved Change Orders.
 - b. Allowances.
 - c. Final quantities for unit price items, including required backup for the quantities.
 - d. Deductions for corrected work.
 - e. Penalties.
 - f. Deductions for liquidated damages.
 - g. Deductions for re-inspection payments.
 - h. Other adjustments.
 - 3. Total Contract Value, as adjusted.
 - 4. Previous payments.
 - 5. Sum remaining due.
- C. If required, the DEN Project Manager will prepare a final Change Order, reflecting the approved adjustments to the Contract Value that were not included in previously issued Change Orders.

3.07 FINAL APPLICATION FOR PAYMENT

- A. The Contractor shall submit the final application for payment in accordance with the procedures and requirements detailed in Article 2003, Final Settlement in the General Contract Conditions, 2011 Edition.
- B. Subcontractor Payment Verification
 - 1. The contractor shall submit a full report of subcontractor work performed, payments made, and outstanding payments due. This report shall include, at minimum, the following information.
 - a. Project name
 - b. Project number
 - c. Date
 - d. Name of Contractor

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- e. Name of all subcontractors, of all tiers, as listed in the bid as well as any subsequently submitted CM-02 forms, including the following information for each subcontracted firm:
 - 1) Total value of work performed
 - 2) Total amount paid to date
 - 3) Date of last payment
 - 4) Balance due
 - 5) Payment Terms
 - 6) Remaining balance to be paid
 - 7) Planned payment date

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017720

SECTION 017825**OPERATION AND MAINTENANCE DATA****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of preparing and submitting operation and maintenance data for mechanical, electrical, and other specified equipment/products.
- B. Coordinate all the requirements of the required data with DEN Asset Management.

1.03 SUBMITTALS

- A. Refer to Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
- B. All submittals must be provided in electronic data as indicated by the DEN Building Information Modeling (BIM) Design Standards Manual (DSM) and as required by the DEN BIM and DEN Asset Management groups.
- C. Submit one (1) electronic copy of the proposed Operation and Maintenance Data Manual not less than 30 days prior to [system startup] [acceptance tests and final inspection].
 - 1. The submitted copies shall provide the Information following the MasterFormat standard. Equipment/Data shall be organized using Section formatting within the 50 MasterFormat Divisions.
- D. Submit one (1) electronic copy of Operation and Maintenance Data Manual within ten days after system startup is complete. These copies shall incorporate any comments made on the previous submittals, along with final readings on all settings and gauges taken while the system is in fully satisfactory operation.

1.04 CONTINUOUS UPDATING PROGRAM

- A. Furnish to DEN AIM Asset Management one (1) electronic copy of the Contractor's letter indicating that suppliers have been notified to provide updated operation and maintenance data, service bulletins, and other information pertinent to the equipment to DEN, as it becomes available.

PART 2 - PRODUCTS**2.01 OPERATIONS AND MAINTENANCE MANUAL REQUIREMENTS**

- A. The following products are the requirements of hard copies:
 - 1. Paper size: 8-½ inches x 11 inches.
 - 2. Paper: White bond, at least 20-pound weight.

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3. Text: Typewritten.
4. Printed data: Manufacturer's catalog cuts, brochures, operation, and maintenance data. Clear reproductions thereof will be acceptable. If this data is in color, all final manuals must contain color data.
5. Drawings: 8½ inches x 11 inches, bound with the text. Larger drawings are acceptable provided they are folded to fit into a pocket inside the rear cover of the manual. Reinforce edges of large drawings.
6. Prints of drawings: Black ink on white paper, sharp in detail and suitable for making reproductions.
7. Flysheets: Separate each portion of the manual with colored, neatly prepared flysheets briefly describing the contents of the ensuing portion.
8. Covers: Provide 40 to 50 mil, clear plastic, front and plain back covers for each manual. The front covers shall contain the information required in paragraph 3.2 below.
9. Bindings: Conceal the binding mechanism inside the manual. Lockable 3-ring binders shall be provided.
10. Training Videos: Provide in digital electronic format as per current DEN requirements.
 - a. Refer to Section 017900 - Demonstration and Training for video requirements.

PART 3 - EXECUTION

3.01 GENERAL

- A. Assemble each operation and maintenance manual using the manufacturer's latest standard commercial data, and include all additional information that is unique to the Project.

3.02 COVER

- A. Include the following information on the front cover and on the inside cover sheet:
 1. Operation and maintenance instructions.
 2. Title of structure or facility.
 3. Title and number of Contract.
 4. Contractor's name and address.
 5. General subject of the manual.

3.03 CONTENTS OF THE MANUAL

- A. Table of Contents, which references, at a minimum, three heading levels.
- B. Index of Equipment/Data with entries for equipment type and MasterFormat Division and Section.
- C. A Master Index that contains index entries for all submitted Operation and Maintenance Data Manuals.
 1. Equipment/Data shall be indexed by equipment type and MasterFormat Division and Section.
 2. Name, address, and telephone numbers of Contractor, suppliers and installers along

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- with the manufacturer's order number and description of the order.
3. Name, address, and telephone numbers of manufacturer's nearest service representatives.
 4. Name, address, and telephone number of nearest parts vendor and service agency.
 5. Copy of guaranties and warranties issued to, and executed in the name of, the City.
 6. Anticipated date the City assumes responsibility for maintenance.
 7. Description of system and component parts including theory of operation.
 8. Pre operation check or inspection list.
 9. Procedures for starting, operating, and stopping equipment.
 10. Post operation check or shutdown list.
 11. Inspection and adjustment procedures.
 12. Troubleshooting and fault isolation procedures for on-site level of repair.
 13. Emergency operating instructions.
 14. Accepted test data.
 15. Maintenance schedules and procedures.
 16. Test procedures to verify the adequacy of repairs.
 17. One (1) copy of each wiring diagram.
 18. One (1) copy of each piping diagram.
 19. Location where all measurements are to be made.
 20. One (1) copy of each duct diagram.
 21. One (1) copy of control diagram.
 22. One (1) copy of each accepted shop drawing.
 23. One (1) copy of software programs imputable or changeable on site.
 24. Ordering information.
 25. Training course material used to train DEN staff, including slides and other presentation material.
 26. Provide the following information, unless the item is covered in the Manufacturer's Operation and Manual:
 - a. Manufacturer's parts list with catalog names, numbers, and illustrations.
 - b. A list of components that are replaceable by the City.
 - c. An exploded view of each piece of the equipment with part designations.
 - d. List of manufacturer's recommended spare parts, current prices, and recommended quantities for two years of operation.
 - e. List of special tools and test equipment required for the operation, maintenance, adjustment, testing and repair of the equipment, instruments and components.
 - f. Scale and corrosion control procedures.
 - g. Disassembly and re-assembly instructions.
 - h. Troubleshooting and repair instructions.
 - i. Calibration procedures.

PART 4 - MEASUREMENT

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4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017825

SECTION 017835

WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of preparing and submitting warranties and bonds required by the Contract and these Specifications.

1.03 SUBMITTALS

- A. Refer to Technical Specifications Section 013300 "Submittal Procedures" and Section 013325 "Shop and Working Drawings, Product Data and Samples" for submittal procedures.
 - 1. All warranties shall be executed or transmitted to the City and County of Denver.
 - 2. Photocopies or reproductions of stock manufacturer's warranties will not be accepted, although electronic copies are acceptable when the manufacturer's warranty is contained in the O&M manual.
- B. Submit samples of warranties and bonds for review by the City prior to execution of Work. Do not submit final warranties until sample warranties have been approved by the City.
 - 1. Submit the warranties and bonds required by the Contract Documents.
 - 2. Prepare and submit a list of all warranties and bonds on the following forms:
 - a. CM-10: Contractor Warranty
 - b. CM-11: Contractor/Sub-Contractor Warranty
- C. Submit executed warranties and bonds.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 WARRANTIES AND BONDS

- A. Submit executed warranties and bonds required by the Contract Documents, as detailed in Title 15 - Performance and Payment Bonds and Title 18 - Warranties, Guarantees, and Corrective Work in the General Contract Conditions, 2011 Edition.
 - 1. Prepare and submit a list of all warranties and bonds on the following forms:
 - a. CM-10, Contractor Warranty
 - b. CM-11, Contractor/Sub-Contractor Warranty

PART 4 - MEASUREMENT

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4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017835

SECTION 017840

CONTRACT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. The Work specified in this Section consists of maintaining, marking, recording, and submitting Contract Record Documents that include shop drawings, warranties, and contractor records. Creating and providing to DEN these documents are part of the Work and become part of the Contract Documents.
- B. Refer to DEN Building Information Modeling (BIM) Design Standards Manual (DSM) and Approved BIM execution for data format and file types acceptable for different type of data.
- C. Related Requirements:
 - 1. Section 013100 "Project Management and Coordination".
 - 2. Section 013223 "Construction Layout, As-built and Quantity Surveys".
 - 3. Section 013300 "Submittal Procedures".
 - 4. Section 013325 "Shop and Working Drawings, Product Data and Samples".
 - 5. Section 017720 "Contract Closeout".
 - 6. Section 017825 "Operation and Maintenance Data".

1.03 SUBMITTALS

- A. Each submittal of record documents shall contain the following information:
 - 1. Date.
 - 2. Project title and numbers.
 - 3. Contractor's name and address.
 - 4. Title and number of each record document.
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of the Contractor or the Contractor's authorized representative.
- B. At the completion of this Contract, deliver all record documents including the following:
 - 1. As-built shop drawings, diagrams, illustrations, schedules, charts, brochures and other similar data.
 - 2. Warranties, guarantees, and bonds.
 - 3. Contract Documents.
 - 4. Contractor records.

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- C. As-built Contract Drawings shall be submitted with each monthly progress payment application, and a complete set shall be submitted prior to final payment.
 - 1. The Contractor shall provide a single electronic copy of each Contract drawing sheet which has been used to produce work during the payment period or work that payment is being requested on, which records the current as-built conditions of work, including the posting of any change orders or change directives not shown on the Contract Documents at the time of Contract signing.
 - a. The Contractor must show as-built work completed through the payment application date including but not limited to utilities, empty conduit, conduit for actual electrical lines, plumbing, HVAC, location of anchor bolts and support points for use by others.
 - b. The Contractor shall be liable for any costs incurred by the City or a third party due to errors or lack of information provided on the as-built drawings.
 - c. All markings on drawings shall be legible to identify the portion of work completed.
 - d. For projects utilizing BIM system by the Contractor or a consultant of the Contractor, all data formats shall be compatible and as approved by the BIM execution plan as required in the DEN BIM DSM.

1.04 QUALITY CONTROL

- A. Submit electronically scanned copies of all documents required by Chapter 17 “Special Inspection and Testing” of the International Building Code 2009 as amended by City and County of Denver 2011. Keep scale and clarify dimension where electronic copies are not as originally scaled and dimensioned.
- B. For projects utilizing BIM for Revit, follow approved BIM execution plan and DEN BIM DSM for record documents, formats, and quality control and assurance procedures.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 MAINTENANCE OF DOCUMENTS

- A. The Contractor must follow all the procedures established in the Contract Documents and DEN BIM DSM.
- B. The Contractor shall maintain at the work site on a current basis one (1) record copy of all drawings, specifications, addenda, change orders, approved shop drawings, working drawings, product data and samples in good order and marked currently to record all changes made during construction.
- C. Maintain at the field office one copy of the following record documents:
 - 1. Contract Documents:
 - a. Contract Drawings with all clarifications, requests for information, directives, changes, and as-built conditions clearly posted.
 - b. Contract Specifications with all clarifications, requests for information, changes, directives and record of manufacturer actually used along with product trade name.
 - c. Reference Standards in accordance with Section 014225 "Referenced Standards".
 - d. Affirmative Action Plan and documents.

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- e. One (1) set of drawings to record the following:
 - 1) Horizontal and vertical location of underground utilities affected by the Work.
 - 2) Location of internal utilities; include valves, controls, conduit, duct work, switches, pressure reducers, size reducers, transitions, crosses, tees, filters, motors, heaters, dampers, regulators, safety devices, sensors, access doors and appurtenances that are concealed in the construction shall be shown with dimensions given from a visible and recognizable reference to the item being located in all three dimensions. The drawings shall also reference the applicable submittal for the item being located.
 - 3) Field changes of dimensions and details including as-built elevations and location (station and offset).
 - 4) Details not on original Contract Drawings but obtained through requests for information or by other communications with the City.
- 2. Contractor Records:
 - a. Daily Quality Control Reports.
 - b. Certificates of compliance for materials used in construction.
 - c. Completed inspection list.
 - d. Inspection and test reports.
 - e. Test procedures.
 - f. Qualification of personnel.
 - g. Approved submittals.
 - h. Material and equipment storage records.
 - i. Safety Plan
 - j. Erosion, sediment, hazardous and quality plans.
 - k. Hazardous material records.
 - l. First report of injuries.

3.02 RECORDINGS

- A. Label each document page or article "PROJECT RECORD" in two-inch high letters.
- B. Keep record documents current daily.
- C. Legibly mark copies of the Contract Drawings to record actual construction.
- D. Legibly mark up each Section of the specifications and Contract Drawings to record:
 - 1. Manufacturer, trade name, catalog number and supplier of each product and item actually installed
 - 2. Changes made by change orders, requests for information, substitutions, and variations approved by submittals.

3.03 DOCUMENT MAINTENANCE

- A. Follow all the required processes of the approved BIM Execution Plan as approved by DEN for this specific project or in formats acceptable to DEN BIM management system.
- B. Do not use record documents for construction purposes.
- C. Make documents available for inspection by the DEN Project Manager and any others having jurisdiction.

3.04 MONTHLY REVIEW

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- A. Prior to any application for payment, the DEN Project Manager or the DEN Project Manager's designated representative will inspect the record documents to ensure that they are being maintained and contain the most current correct data with particular attention to as-built drawings.
- B. If, during the inspection, the DEN Project Manager determines that the documents are not being maintained and kept current so they reflect as-built conditions, an amount may be withheld from the payment request and deducted from the Contract value to cover the City's cost of collecting, creating, and recording the as-built data. This cost will be determined based on \$100.00 per man-hour of effort.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 017840

SECTION 024119

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 MATERIAL OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain DEN's property, demolished materials shall become the Contractor's property and shall be removed from the Project site.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.03 FIELD CONDITIONS

- A. When there are occupied portions of buildings immediately adjacent to selective demolition area, conduct selective demolition so DEN's or tenant's operations will not be disrupted.
 - 1. Provide not less than 72 hours' notice to DEN Project Manager of activities that will affect DEN's or tenant's operations.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. Refer to Drawings
- C. Notify DEN Project Manager of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify DEN Project Manager. Hazardous materials will be removed by Owner under a separate contract.

1.04 INFORMATIONAL SUBMITTALS

- A. Submit Schedule of Selective Demolition Activities. Indicate the Following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure DEN's and tenant's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.

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SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Structural and non-structural concrete topping slabs.
- B. Related Sections:
 - 1. Section 013300 "Submittal Procedures."
- C. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by alternates.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. Include data substantiating that materials comply with requirements.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments. Concrete materials representing current production shall be tested and used to fabricate trial mix data. The testing lab shall submit and certify the results of all tests and/or certificates of all materials and calculations used to develop the 7-day and 28-day compressive strength test results and applicable reference specifications.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.

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2. Additional mixture design requirements:
 - a. Mix identification number (unique for each mix submitted).
 - b. Statement of intended mix use.
 - c. Mixture proportions.
 - d. Water/cementitious materials ratio.
 - e. Wet unit weight.
 - f. Total air content.
 - g. Design slump and allowable range after additions of all admixtures.
 - h. Compressive strength tests.
 3. Shrinkage testing per ASTM C 157.
- C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement according to ACI 315 "Details and Detailing of Concrete Reinforcement". Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement. Include special reinforcement required for openings through concrete structures.
1. Show all reinforcing, top and bottom profile of concrete element, supports below, including beams, columns, concrete walls, joists, etc. element framing into element.
 2. Show locations of approved construction joints, locations of pour strips, splices of reinforcing, type of splice used and sliced location. Identify all ASTM A706 and epoxy coated reinforcing locations.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.
1. Design and engineering of formwork are Contractor's responsibility.
 2. Submit shop drawings showing all formwork and sequencing of all vertical concrete walls 8 feet or more in height. Coordinate pour breaks in architectural exposed exterior concrete walls so that pour breaks occur at the top or bottom of a reveal. Show form tie locations. Provide uniform form tie spacing at architecturally exposed exterior concrete walls.
 3. Shop drawings to be prepared by a Colorado Professional Engineer.
 4. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and reshoring installation and removal.
- E. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
1. Location of construction joints is subject to approval of the DEN and contractor Project Manager. Do not proceed with work unless construction joint shop drawings are approved by contractor and the Owner.

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- A. Qualification Data:
- B. Welding certificates.
- C. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Steel reinforcement and accessories.
 - 5. Curing compounds.
 - 6. Bonding agents.
 - 7. Adhesives.
 - 8. Repair materials.
 - 9. Structural epoxy for reinforcing.
 - 10. Supplementary cementitious materials.
- D. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates. Submit test reports indicating that aggregates are not potentially reactive based on the ASTM C295 or ASTM 1260 testing limits set forth in section 5.1 of "Guide specification for Concrete Subject to Alkali-Silica Reactions" (2007 Portland Cement Association). Alternatively, submit ASTM C1567 test reports indicating that the combination of mix ingredients reduces the expansion due to Alkali aggregate reactivity such that the mix complies with section 5.2 of "Guide Specification for Concrete Subject to Alkali-Silica Reactions" (2007 Portland Cement Association). All tests for submitted reports shall have been performed within one year of the submittal date.
- E. Not used.
- F. Minutes of preinstallation conference.
- G. Placement Notification: Notify Engineer/Owner at least 24 hours in advance of placement.
- H. Certification of chloride screen effectiveness for penetrating sealers.
- I. Proposed location of saw cut joints not indicated on Drawings.
- J. Curing compound data demonstrating specified moisture loss performance.
- K. Evaporative retarder product and application data.

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1.6 CLOSEOUT SUBMITTALS

- A. As-Built Plans: Submit complete as-built plans of all Work, including interface with other Work, in accordance with requirements as specified in Section 013300 "Submittal Procedures."

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, and extent.
- C. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- D. Testing Agency Qualifications: An independent testing agency, acceptable to DEN and all authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
 - 3. Personnel inspecting concrete reinforcing steel have current certification as an ACI Concrete Construction Inspector or have experience in concrete construction acceptable to the Engineer.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.
- F. Welding Qualifications: Qualify procedures and personnel according to AWS D1.4/D 1.4M, "Structural Welding Code - Reinforcing Steel."
- G. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

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1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5. Sections 1 through 5 and Section 7, "Lightweight Concrete."
 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- H. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- I. Preinstallation Conference: Conduct conference at Project site.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Ready-mix concrete manufacturer.
 - c. Concrete subcontractor.
 - d. DEN's Testing/Inspection Agency.
 - e. Martin/Martin, Inc. representative.
 2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, curing procedures, construction contraction and isolation joints, and joint-filler strips, forms and form removal limitations, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, and concrete protection.
- J. Record Work: Maintain a record listing time and date of all structural concrete placement. Such record shall be kept until completion of Project and shall be available to Architect for examination at any time.
- K. Pre-Placement Inspection: Formwork installation, reinforcing steel placement and installation of all items to be embedded or cast into concrete shall be verified by Contractor prior to placement.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Store reinforcement above the ground on platforms, skids or other supports.
 - B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.
 - C. Avoid damaging coatings on steel reinforcement.
 - D. Repair damaged epoxy coatings on steel reinforcement according to ASTM D 3963/D 3963M.

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- E. Damaged or non-conforming materials shall be removed from the Project Site and replaced with new satisfactory materials at no additional cost to Owner.
- F. Deliver packaged materials to Project Site in original, unopened and undamaged containers plainly labeled with manufacturer's name, product name and designation, expiration period for use, mixing instructions for multi-component materials and other pertinent data. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage and other causes.

1.9 CONSTRUCTION WASTE MANAGEMENT

- A. Construction waste shall be managed in accordance with provisions of Section 017419 "Construction Waste Management and Disposal". Documentation shall be submitted to satisfy the requirements of that Section.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Recycled Content of Steel Products: Total recycled content not less than 90 percent.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- C. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- D. Galvanized Reinforcing Bars: **ASTM A 615/A 615M**, Grade 60, deformed bars.
- E. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.
- F. Deformed-Steel Wire: ASTM A 496/A 496M.
- G. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
- H. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
- I. Epoxy coated reinforcement: ASTM A775 or A934.

2.2 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture

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bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete.

- C. Mechanical Connectors: Mechanical couplers shall develop in tension or compression, as required, at least 125% of bar yield strength. Connectors shall comply with ICC-ES acceptance criteria, ACI 133.

2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: As indicated on Drawings. Alternate cementitious materials when proposed to control alkali-silica reactions and tested as part of a representative concrete mix in accordance with ASTM C1567 may be used subject to approval.
2. Blended Hydraulic Cement: ASTM C595 as indicated on drawings.
3. Supplementary Cementitious Materials (SCM): Of proportions and type to meet performance criteria as indicated in the structural drawings. Available SCM's that may be incorporated into the work include, but are not limited to, the following:
 - a. Fly Ash: ASTM C618, class C
 - b. Ground Granulated Blast-Furnace Slag: ASTM C989, Grade 100 or 120.

~~C.~~ Silica Fume: ASTM C 1240, amorphous silica.

~~C.B.~~ Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials. All coarse and fine aggregate shall be tested per ASTM C 295 or ASTM C 1293 in accordance with section 5.1 of "Guide Specification for concrete Subject to Alkali-Silica Reactions" (2007 Portland Cement Association).

1. Maximum Coarse-Aggregate Size: As indicated on Drawings.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
3. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 sieve, and less than 8 percent may be retained on sieves finer than No. 50.

~~D.C.~~ Not used.

~~E.D.~~ Water: ASTM C 94/C 94M and potable.

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2.4 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
 - 7. Mid-Range Water Reducing Admixture: ASTM C 494/C 494M, Type A.

2.5 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
 - 1. Products: Subject to compliance with requirements.
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating. Film must chemically break down in a four to six week period. Provide data from independent laboratory indicating maximum moisture less than 0.30 kg/m² at 72 hours when tested in accordance with ASTM C 156.
 - 1. Products: Subject to compliance with requirements.
 - a. Not used.

2.6 RELATED MATERIALS

- A. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

- B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
 - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- C. Reglets: Fabricate reglets of not less than 0.022-inch-thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- D. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.7 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
 - 1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of portland cement, which would otherwise be used, by not less than 25 percent.
- C. Limits of silica fume alone or in combination with other cementitious materials below are based on ACI 301 and ACI 318 (ACI 318M).
 - 1. Silica Fume: 10 percent.
 - 2. Combined Fly Ash, Pozzolans, and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
 - 3. Combined Fly Ash or Pozzolans, Ground Granulated Blast-Furnace Slag, and Silica Fume: 50 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
- D. Limit water-soluble, chloride-ion content in hardened concrete to **0.15** for reinforced concrete exposed to chlorides in service, 0.30 for other reinforced concrete, and 1.00 for reinforced concrete that will be dry and protected from moisture in service, percent by weight.
- E. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

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3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

2.8 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Concrete Toppings: Proportion normal-weight concrete mixture as indicated on drawings.

2.9 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M, and furnish batch ticket information.
 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
 1. For mixer capacity of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
 2. For mixer capacity larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION**3.1 FORMWORK**

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

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- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117. The permissible irregularity is a cumulative value due to all sources including layout, plumbness, member size, framework offsets, joints, and member levelness.
- C. Construct forms tight enough to prevent loss of concrete mortar.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 1. Install keyways, recesses, and the like, for easy removal.
 - 2. Do not use rust-stained steel form-facing material.
- E. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- G. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- H. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- I. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- J. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 - a. Tolerance of Embedded Items: Comply with ACI 117.

1) Anchor Rods:

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2) Embedded Plates and Weldments:**3.3 REMOVING AND REUSING FORMS**

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.
1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
 3. Leave framework and shoring in place a minimum of 15 days after concrete placement unless reshoring is used.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by EOR and contractor Project Manager.

3.4 Not used.**3.5 STEEL REINFORCEMENT**

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
1. Weld reinforcing bars according to AWS D1.4/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

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- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated, and as approved by EOR and contractor Project Manager. Coordinate locations of all construction joints with flooring materials, and review with EOR and contractor Project Manager.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated.
 - 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.
 - 3. Not used.
 - 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 5. Not used.
 - 6. use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 - 7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Not used.
- D. Not used.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.
- F. Not used.
- G. Not used.

3.7 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by DEN and contractor Project Manager.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

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1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - a. Slabs supported by metal deck shall be gaged to provide the specified slab thickness over beams.
 4. Slope surfaces uniformly to drains where required.
 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved by DEN and contractor Project Manager in mixture designs.
- G. Hot-Weather Placement: Comply with ACI 301 and as follows:

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1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.8 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated.

3.9 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in one direction.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated. While concrete is still plastic, slightly scarify surface with a fine broom.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps, and elsewhere as indicated.

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- G. Slip-Resistive Finish: Before final floating, apply slip-resistive granule finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:
- H. Not used.

3.10 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Not used.
- D. Not used.

3.11 CONCRETE PROTECTING AND CURING

- A. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- B. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- C. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

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2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape. Moisture-retaining-cover shall be inspected each day by Contractor. Any areas which do not show condensation on underside of cover or any slab areas which are not wet shall immediately rewetted and cover replaced to prevent moisture loss.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
3. **Curing Compound:** Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. **Removal:** After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.
4. **Curing and Sealing Compound:** Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.12 CONCRETE SURFACE REPAIRS

- A. **Defective Concrete:** Repair and patch defective areas when approved by DEN and contractor Project Manager. Remove and replace concrete that cannot be repaired and patched to DEN and contractor Project Manager's approval.
- B. **Patching Mortar:** Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. **Repairing Formed Surfaces:** Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning and that are unacceptable to Architect. Allow Architect and Structural Engineer to observe concrete surfaces upon removal of forms and prior to repair of surface defects. Defects in structural concrete shall be brought to the attention of the Architect and Structural Engineer.

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1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by EOR and contractor.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template. Submit proposed repair to Architect for review prior to commencement of work.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried.

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Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

- E. Perform structural repairs of concrete, subject to EOR and contractor Project Manager's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to EOR and contractor Project Manager's approval.

3.13 FIELD QUALITY CONTROL

- A. Testing and Inspecting: DEN will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
 - 1. Steel reinforcement placement.
 - 2. Steel reinforcement welding.
 - 3. Headed bolts and studs.
 - 4. Verification of use of required design mixture.
 - 5. Concrete placement, including conveying and depositing.
 - 6. Curing procedures and maintenance of curing temperature.
 - 7. Verification of concrete strength before removal of shores and forms from beams and slabs.
 - 8. And as indicated on drawings.
- C. Concrete Tests: As indicated on the drawings but not less than the following: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
 - 1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 - 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 - 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173/C 173M, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.

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5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure one set of five (5) standard cylinder specimens for each composite sample.
 - b. Cast and field cure one set of five (5) standard cylinder specimens for each composite sample.
 7. Compressive-Strength Tests: ASTM C 39/C 39M.
 - a. Test one (1) set of two (2) field-cured specimens at 7 days and one (1) set of two (2) specimens at 28 days. One (1) specimen shall be held in reserve for additional testing as needed.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
 8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
 10. Test results shall be reported in writing to DEN and contractor Project Manager, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by EOR and contractor Project Manager but will not be used as sole basis for approval or rejection of concrete.
 12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by DEN and contractor Project Manager. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by EOR and contractor Project Manager.
 13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.
- D. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary

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covering, recommended in writing by liquid floor treatments installer.

PART 4 - PAYMENT

4.1 **METHOD OF PAYMENT**

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 033000

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SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Structural steel.
- B. Related Sections:
 - 1. Section 014000 "Quality Requirements" for independent testing agency procedures and administrative requirements.
 - 2. Section 050510 "Welding" for general welding requirements.
 - 3. Not used.
 - 4. Not used.
 - 5. Not used.
 - 6. Not used.
 - 7. Not used.
- C. Extent of structural steel Work is shown on drawings, including schedules, notes and details to show size and location of members, typical connections, and type of steel required.
- D. Structural steel is that work defined in American Institute of Steel Construction (AISC) "Code of Standard Practice" and as otherwise shown on drawings.
- E. Members in a structure that carry an imposed load in addition to their own weight.

1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.
- C. Heavy Sections: Rolled and built-up sections as follows:

- 1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches.
- 2. Welded built-up members with plates thicker than 2 inches.
- 3. Column base plates thicker than 2 inches.

1.4 REFERENCE STANDARDS

- A. Comply with the requirements of the reference standards noted herein, except where more stringent requirements are listed herein or otherwise required by the Contract Documents.

1.5 PERFORMANCE REQUIREMENTS

- A. Connections: As indicated on the drawings.
- B. Moment Connections: As indicated on the drawings.
- C. Construction: As indicated on the drawings.

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Submit producer's or manufacturer's specifications and installation instructions for the following products. Include laboratory test reports and other data to show compliance with specifications, including specified standards.
 - 1. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties.
 - 2. High strength bolts (each type), including nuts and washers.
 - 3. Structural steel primer paint.
 - 4. Shrinkage resistant grout.
 - 5. Welding Electrodes: Per Section 050510 "Welding."
 - 6. Provide fully traceable certificates of compliance with ASTM.
 - 7. Include data substantiating that materials comply with requirements.
- B. LEED Submittals:
 - 1. Refer to Section 018113 Sustainable Design Requirements for reporting and submittal requirements.
 - 2. Sustainable Design Documentation: Refer to Section 018113 Products for applicable definitions and product compliance requirements which may not be specified in this Section. Report(s) and separate submittal(s) documenting compliance with all requirements for sustainable design, whether or not specified in this Section, including, but not limited to:
 - a. If available: Environmental Product Declarations (EPD).
 - b. If available: Material Ingredient report (HPD, Cradle to Cradle, Declare label, Lens Certificate).
 - c. General emissions evaluation certificate and VOC content, if applicable, for

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- materials listed in 018113 Paragraph 2.2
 - d. Provide the volume to be used for all interior-applied adhesives, sealants, paints, and coatings.
 - e. Provide the surface area to be installed for all interior-applied flooring, composite wood, ceiling products, wall products, and thermal and acoustic insulation
 - 3. Other specified sustainable design requirements if identified as such in this Section.
 - 4. See Section 01 8113 Action Submittals for applicable definitions and product compliance requirements which may not be specified in this Section.
- C. Shop and Erection Drawings: Show location, fabrication and assembly of structural-steel components. Submit shop drawings for all Work specified herein, including complete details and schedules for fabrication and assembly of structural steel members, procedures and diagrams.
- 1. Design construction drawings shall not be re-used as bases for submitted shop drawings. Shop drawings that use reproductions of design plans or details may not be reviewed.
 - 2. Erection and piece drawings shall be submitted in complete units. Do not submit partial sets.
 - 3. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
 - 4. Include embedment drawings.
 - 5. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
 - 6. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
 - 7. Identify members and connections of the seismic-load-resisting system.
 - 8. Indicate locations and dimensions of protected zones.
 - 9. Identify demand critical welds.
 - 10. Shop drawings shall clearly indicate profiles, sizes, and locations of structural members, connections, attachments, anchorage's, framed openings, size and type of fasteners, and clearances. Clearly indicate net weld lengths and sizes, root openings, bevel angles and other information required to satisfactorily complete welding operations.
 - 11. Drawings submitted in multiple packages shall contain individual submittals complete with all applicable erection drawings, details, and piece drawings.
 - 12. Provide schedule for submittal of shop and erection drawings.
- D. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:
- 1. Power source (constant current or constant voltage).
 - 2. Electrode manufacturer and trade name, for demand critical welds.

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- E. Charpy V-Notch testing results for heavy sections and weld metal when required.

1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer fabricator professional engineer testing agency.
- B. Welding certificates.
- C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- D. Mill test reports for structural steel, including chemical and physical properties.
- E. Product Test Reports: For the following:
 - 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 2. Direct-tension indicators.
 - 3. Tension-control, high-strength bolt-nut-washer assemblies.
 - 4. Shear stud connectors.
 - 5. Shop primers.
 - 6. Nonshrink grout.
- F. Source quality-control reports.
- G. Surveys: Submit certified copies of each survey conducted by a registered professional engineer, showing elevations and locations of all base plates and anchor bolts to receive structural steel, and final elevations and locations for major members. Indicate discrepancies between actual installation and Contract Documents.
- H.
- I. Submit Quality Control Plan for approval by EOR and CONTRACTOR Project Manager.

1.8 CLOSEOUT SUBMITTALS

- A. As-Built Plans: Submit complete as-built plans of all Work, including interface with other Work, in accordance with requirements as specified in Section 013300 "Submittal Procedures."

1.9 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.
- B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.

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- C. Not used.
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel." Reference Section 050510 "Welding" for general welding requirements.
1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- E. Comply with applicable provisions of the following specifications and documents:
1. AISC 303 as mentioned with below.
 - a. Section 3.2: Replace entire section with the following: "Requirements for structural steel including quantities, sizes, locations, arrangement, and details shall be shown or noted in the overall Contract Drawings package. Fabricator is responsible for incorporating all such information from structural, architectural, mechanical, and electrical drawings, as well as those of other disciplines."
 - b. Section 3.5: Remove all text after first sentence.
 - c. Section 3.6: Replace entire section with the following: "When the fast-track project delivery system is selected, release of structural drawings shall constitute release for construction only if specifically noted as such on the drawing. Drawing indicated "preliminary" or "not for construction" shall not be used for detailing or construction except where the risk of any cost or delay associate with subsequent revisions to Contract Documents is accepted by the Owner, Contractor or Fabricator."
 - d. Section 4.4: Revise second sentence to read the following: "The shop and erection drawings shall be returned in accordance with the schedule defined in Division 1 of the project Specification. In the absence of such schedule, the Owner's Designated Representative for Design shall return submittals within 14 calendar days of receipt from the Owner's Designated Representative for Construction."
 2. AISC 341 and AISC 341s1.
 3. AISC 360.
 4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- F. Preinstallation Conference: Conduct conference at Project site location and time as determined by CONTRACTOR Project Manager.
- G. Qualifications for welding work shall be in accordance with Specification Section 050510 "Welding" and applicable welding and inspection codes.
- H. The Contractor shall periodically review each welder's work quality and take any steps required to endure high quality work. This is in addition to Quality Control requirements.

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- I. Fabricator Qualifications: Minimum of three (3) years experience specializing in fabrication of structural steel for similar projects and be an AISC Class III shop.
- J. Fabricator shall provide full traceability of all steel used in the fabrication of this project. Procedures for providing traceability shall be included in the Quality Control Plan.
- K. Source Quality Control: Materials and fabrication procedures are subject to inspection and tests in mill, shop, and field, conducted by a qualified independent inspection agency furnished and paid for by contractor.
- L. Promptly remove and replace materials or fabricated components which do not comply.
- M. Design of Members and Connections: Details shown are typical; similar details apply to similar conditions, unless otherwise indicated. Verify dimensions at site whenever possible without causing delay in the Work.
- N. Promptly notify EOR and CONTRACTOR Project Manager whenever design of members and connections for any portion of structure are not clearly indicated.
- O. Not used.
- P. Independent Testing Agency and CONTRACTOR Quality Control Manager will have authority to reject weldments. Such rejection may be based on visual inspection where, in the opinion of the Independent Testing Agency or CONTRACTOR Quality Control Manager, weldment would not pass more detailed investigation.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site at such intervals to insure uninterrupted progress of work. All material shall bear easily readable identification mark numbers as noted on shop drawings. Deliveries to the jobsite shall be made in the order that material is being erected. The direction of camber shall be clearly shown.
- B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast in place concrete or masonry, in ample time to not to delay work.
- C. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- D. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

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1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
2. Clean and relubricate bolts and nuts that become dry or rusty before use.
3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.11 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

1.12 CONSTRUCTION WASTE MANAGEMENT

- A. Construction waste shall be managed in accordance with provisions of Section 017419 "Construction Waste Management and Disposal". Documentation shall be submitted to satisfy the requirements of that Section.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. Metal Surfaces, General: For fabrication of steel exposed to view, use only materials which are smooth and free of surface blemishes including pitting, rust and scale seam marks, roller marks, rolled trade names and roughness. Reference Section 051213 "Architecturally exposed Structural Steel Framing" for exposed structural steel framing.
- B. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than the following:
 1. W-Shapes: 60 percent.
 2. Channels, Angles, M , S-Shapes: 60 percent.
 3. Plate and Bar: 25 percent.
 4. Cold-Formed Hollow Structural Sections: 25 percent.
 5. Steel Pipe: 25 percent.
 6. Not used.
 7. All Other Steel Materials: 25 percent.
- C. W-Shapes: ASTM A 992/A 992M unless indicated otherwise on the drawings.
- D. Plate and Bar: ASTM A 36/A 36M unless indicated otherwise on the drawings.

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<div>E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade C, structural tubing.</div> <div>F. Welding Electrodes: Comply with AWS requirements and with Specifications Section 050510 "Welding," and applicable welding codes and specifications.<div>1. Conform to Charpy V-Notch test requirements of AISC 360.</div></div> <div>G. Heavy Sections:<div>1. Conform to Charpy V-Notch test requirements of AISC 360</div></div>	
2.2 BOLTS, CONNECTORS, AND ANCHORS	
<div>A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers; all with plain finish.<div>1. Direct-Tension Indicators: ASTM F 959, Type 325, compressible-washer type with plain finish.</div></div> <div>B. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy-hex steel structural bolts or tension-control, bolt-nut-washer assemblies with splined ends; ASTM A 563, Grade DH, heavy-hex carbon-steel nuts; and ASTM F 436, Type 1, hardened carbon-steel washers with plain finish.<div>1. Direct-Tension Indicators: ASTM F 959, Type 490, compressible-washer type with plain finish.</div></div> <div>C. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex round head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.<div>1. Finish: Plain.</div></div> <div>D. Steel Headed Stud Anchors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.</div> <div>E. Unheaded Anchor Rods: ASTM F 1554, Grade 55, weldable.<div>1. Configuration: Straight.</div><div>2. Nuts: ASTM A 563 heavy-hex carbon steel.</div><div>3. Plate Washers: ASTM A 36/A 36M carbon steel.</div><div>4. Washers: ASTM F 436, Type 1, hardened carbon steel.</div><div>5. Finish: Plain Hot-dip zinc coating, ASTM A 153/A 153M, Class C.</div></div> <div>F. Headed Anchor Rods: ASTM F 1554, Grade 55, weldable, straight.<div>1. Nuts: ASTM A 563 heavy-hex carbon steel.</div><div>2. Plate Washers: ASTM A 36/A 36M carbon steel.</div><div>3. Washers: ASTM F 436, Type 1, hardened carbon steel.</div></div>	
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4. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- G. Threaded Rods: ASTM A 36/A 36M.
1. Nuts: ASTM A 563 heavy-hex carbon steel.
 2. Washers: ASTM F 436, Type 1, hardened ASTM A 36/A 36M carbon steel.
 3. Finish: Hot-dip zinc coating, ASTM A 153/A 153M, Class C.
- H. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.
- I. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.
- J. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.
- K. Structural Slide Bearings: Low-friction assemblies, of configuration indicated, that provide vertical transfer of loads and allow horizontal movement perpendicular to plane of expansion joint while resisting movement within plane of expansion joint.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Amscot Structural Products Corp.
 - b. Fluorocarbon Company Limited.
 - c. R.J. Watson Bridge & Structural Engineered Systems.
 - d. Seismic Energy Products, L.P.
 - e. or approved equal.
 2. Mating Surfaces: PTFE and mirror-finished stainless steel.
 3. Coefficient of Friction: Not more than 0.06.
 4. Design Load: Not less than 2,000 psi.
 5. Total Movement Capability: As indicated on the drawings.
 6. Applicable Temperature Range: -20°F to 110°F.
- L. Deformed Anchor Studs (DAS)/Deformed Bar Anchors (DBA): Made from ASTM A 108 low carbon steel, cold worked and deformed per ASTM A 496. Minimum yield stress=60 ksi (415 MPa); minimum tensile strength=80 ksi (550 MPa).
- M. Rebar: Rebar used for welding shall meet the requirements of ASTM A-706. Minimum bend diameters per ACI 318.
- N. Expansion Anchors, Screw Anchors, and Adhesive Anchors: Size and Manufacturer as indicated on Drawings. Complete assemblies with required rods, nuts, washers, and adhesive system as applicable. Installed in accordance with Manufacturer's installation instructions. Current ICC approval and published ICC Research Report required.
1. Finish for use in conditioned environments free from potential moisture (interior): Plain or in accordance with Manufacturer's standard.

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2. Finish for use in exposed or potentially wet environments and for attachment of exterior cladding materials: Galvanized in conformance with ASTM A 153 or stainless steel, Series 300.

2.3 GROUT

- A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time. Minimum compressive strength=6,000 psi.
- B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time. Minimum compressive strength=6,000 psi. Nonmetallic grout required where grout is exposed to view or weathering.

2.4 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 1. Camber structural-steel members where indicated.
 2. Fabricate beams with rolling camber up.
 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 4. Mark and match-mark materials for field assembly.
 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
 6. Where finishing is required, complete assembly, including welding of units, before start of finishing operations. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Steel Headed Stud Anchors and Deformed Anchor Studs/Deformed Bar Anchors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of anchors according to AWS D1.1/D1.1M and manufacturer's written instructions.

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- F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
 - 1. Cut, drill, thermal cut or punch holes perpendicular to steel surfaces. Any enlarging of holes by flame cutting shall be performed only if approved by the EOR and CONTRACTOR Project Manager.
 - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.
 - 4. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other work.
- G. Expansion Joints: Provide expansion joints in steel shelf angles to match locations of expansion joints in structural steel frame.
- H. Splices: Splicing of members to obtain required lengths is not permitted without prior approval of structural Engineer-of-Record unless indicated on the drawings.
- I. Substitutions: Where exact sizes and weights indicated on Drawings are not readily available, secure approval of alternate sizes from Structural Engineer-of-Record in time to prevent project delay.

2.5 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: As indicated on the drawings.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work. Reference Section 050510 "Welding" for general welding requirements.
 - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.6 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

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- C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
 - 1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
 - 1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

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2. Coordinate installation of non-structural steel items that load the temporarily supported steel frame such that temporary supports are adequate to resist all imposed loads.
3. Slab-on-deck assemblies to composite beams and girders until concrete has achieved 75 percent of its design strength without prior approval of structural Engineer-of-Record.

3.3 ERECTION

- A. Surveys: Employ a registered professional engineer or land surveyor for accurate erection of structural steel. Check elevations of concrete and masonry bearing surfaces, and locations of anchor bolts and similar devices, before erection work proceeds, and report discrepancies to the EOR and CONTRACTOR Project Manager along with a suggested plan on how to correct the discrepancy.
 1. Do not proceed with erection until corrections have been made, or until compensating adjustments to structural steel work have been agreed upon with the EOR and CONTRACTOR Project Manager.
- B. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and all final connections are made. Provide temporary guide lines to achieve proper alignment of structures as erection proceeds. Temporary shoring and bracing shall be designed by a Licensed Colorado Professional Engineer.
 1. The Engineer shall inspect finished shoring and bracing and document compliance with the design plans.
- C. Temporary Planking: Provide temporary planking handrails, nets, anchorages and working platforms as necessary to effectively and safely complete work.
- D. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- E. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 2. Weld plate washers to top of baseplate.
 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts. Clean and moisten surfaces to receive grout. Immediately remove any remaining free water.

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- F. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- G. Set structural frames accurately to lines and elevations indicated. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
1. Level and plumb individual members of structure within specified AISC tolerances and as follows:
 - a. At all slab edge conditions, provide a maximum deviation from grid line (or dimensioned point from grid line), to beam or column center, on the exterior or open side, of 1/4" at any given point. Grid line shall be considered a theoretically perfect plane.
 - b. Establish required leveling and plumbing measurements on mean operating temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.
 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- H. Splice members only where indicated and approved on shop drawings.
1. Do fasten splices in compression after bearing surface have been brought into contact. Close all gaps greater than 1/16" by driving non-tapered mild steel shims full depth of bearing surface along full length of gap.
- I. Do not use thermal cutting during erection unless approved by CONTRACTOR Project Manager. Finish thermally cut sections within smoothness limits in AWS D1.1/D1.1M.
- J. Do not enlarge unfair holes in members by burning or using drift pins, except in secondary members. Ream holes that must be enlarged to admit bolts.
- K. Steel Headed Stud Anchors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.
- L. Erection Bolts: On exposed welded construction, remove erection bolts, fill holes with plug welds and grind smooth at exposed surfaces.
- M. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds. Where welding to existing steel, clean existing steel surfaces prior to welding.
- N. Gas Cutting: Do not use gas cutting torches in field for correcting fabrication errors in primary structural framing. Cutting will be permitted only on secondary members that

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are not under stress, as acceptable to CONTRACTOR Project Manager. Finish gas cut sections equal to a sheared appearance when permitted.

- O. Touch Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint. Apply paint to exposed areas using same material as used for shop painting.
- P. Beam Members: Deviation of member working point horizontal location and elevation with respect to the supporting member shall not exceed +/- 1/16" from the location and elevation shown on the drawings.
 - 1. Leveling and Plumbing: Based on mean temperature of 70 degrees F.
 - 2. Compensate for difference in temperature at time of erection.
- Q. Headed Stud Shear Connectors: Automatically end weld in accordance with Specification Section 050510 "Welding", AWS D1.1 and manufacturer's printed instructions.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: As indicated on the drawings.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work. Reference Section 050510 "Welding" for general welding requirements.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 - 3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.

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1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- D. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.
- E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
 1. Additional testing, if required, will be performed at Contractor's expense, as may be necessary to reconfirm any non-compliance of original work, and as may be necessary to show compliance of corrected work.

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 051200

SECTION 079200**JOINT SEALANTS****PART 1 - GENERAL****1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at project site

1.03 ACTION SUBMITTAL

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheet, and appropriate Material Safety Data Sheets (MSDS).

1.04 QUALITY ASSURANCE

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.06 JOB CONDITIONS

- A. Environmental Conditions: Optimal sealant application temperature: Between 40oF (5oC) and rising.
- B. Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature -20oF (-27oC) and maximum application temperature 130 oF (54 oC).

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- C. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified coating.

1.07 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Minimum twenty (20) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Sikasil®-WS 295 and Sikasil®-WS 295 FPS, as manufactured by Sika Corporation,
 - 1. Location: Cast-in-Place Concrete

2.02 MATERIALS

- A. Silicone Sealant:
 - 1. The joint sealant shall be a one-component, or multi-component,,gun grade,neutral cure, silicone material. It shall be for exterior joints in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to most common building materials including glass, aluminum, metal, tile, fibreglass, plastic, ceramic, masonry, concrete, brick, powder coated aluminum, fluoropolymer painted surfaces, vinyl, PVC, granite, limestone, marble and wood.
- B. Any primers, as required, recommended by the manufacturer of the specified product, approved by the Engineer.
- C. Backer rod or bond breaker tape, as approved by the Engineer.

2.03 PERFORMANCE CRITERIA

- A. Properties of the uncured neutral cure silicone sealant:
 - 1. Tack-Free Time (ASTM C-679) – 50 minutes
 - 2. Final Cure 7 – 14 days
 - 3. Consistency: non-sag
 - 4. Color: As selected from manufacturers full range to match adjacent surafce
- B. Properties of the cured neutral cure silicone sealant:
 - 1. Tensile Properties (ASTM D-412) at 21 days
 - a. Tensile Stress: 200-psi min.(1.38 MPa)
 - b. Elongation at Break: 800%
 - c. Modulus of Elasticity 100% 55 psi (0.38 MPa)
 - 2. Shore A Hardness (ASTM C-661) at 21 days: 20 +/- 5
 - 3. Tear Strength (ASTM D-624) at 21 days: 50 lb./in.

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4. Peel Strength (ASTM C-719) at 21 days: 30
5. The sealant shall conform to Federal Specification TT-S-00230C, Type II, Class A and Federal Specification for Silicones TT-S-001543A, Type non-sag.
6. The sealant shall conform to ASTM C-920, Type S, Grade NS, Class 50.
7. The sealant shall be non-staining.
8. The sealant shall be capable of +50% / -50% joint movement

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. The joint and adjacent substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of the old sealant, dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – sandblasting, etc., for porous substrates and by two rag solvent wipe method for non porous substrates as approved by the engineer. Blow joint free of dust using compressed air line equipped with an oil trap.

3.02 MIXING AND APPLICATION

- A. Joints:
 1. Placement Procedure: Prime substrate as required based upon the recommendations of the manufacturer of the specified product, when field testing indicates need, as approved by the Engineer.
 2. Install approved backer rod or bond breaker tape in all joints subject to thermal movement to prevent three- sided bonding and to set the depth of the sealant at a maximum of 1/2 in., measured at the center point of the joint width. Approval of the backer rod or bond breaker tape shall be made by the Engineer.
 3. Joints shall be masked to prevent discoloration or application on unwanted areas, as directed by the Engineer. If masking tape is used, it shall not be removed before tooling, yet must be removed before the initial cure of the sealant. Do not apply the masking tape until just prior to the sealant application.
 4. Install sealant into the prepared joints when the joint is at the mid-point of its expansion and contraction cycle. Place the nozzle of the gun, either hand, air, or electric powered, into the bottom of the joint and fill entire joint. Keep the tip of the nozzle in the sealant; continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the joint.
 5. Adhere to all limitations and cautions for the neutral cure silicone sealant as stated in the manufacturers printed literature.
- B. Cracks
 1. For best performance sealant should be gunned into crack to a minimum of a 1/4" in depth. Place the nozzle of the gun, either hand, air or electric powered, into the bottom of the crack and fill entire crack. Keep the tip of the nozzle in the sealant. Continue with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping the sealant to eliminate the entrapment of air. Tool as required to properly fill the crack.
 2. Adhere to all limitations and cautions for the neutral cure silicone sealant as stated in the manufacturer's printed literature.

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3.03 CLEANING

- A. The uncured silicone sealant can be cleaned with an approved solvent. The cured silicone sealant can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 033000

SECTION 10 1400

SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Traffic signs.
 - 2. Custom wayfinding
 - 3. Flashing pedestrian yield signage

1.2 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details for signs.
 - 1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 - 2. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.
- C. Samples: For each sign type, product and for each color and texture required.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 TRAFFIC SIGANGE

- A. Refer to Drawings

2.2 CUSTOM WAYFINDING

- A. Refer to Drawings

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DIVISION 10 – SPECIALTIES
SECTION 101400 - SIGNAGE

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2.3 FLASHING PEDESTRIAN SIGN

- A. Basis of Design: TS40, as manufactured by Traffic Safety Corp.
1. Color: Match existing
 2. Size: Match existing
 3. Wiring: Refer to Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.
1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.

END OF SECTION

SECTION 220400 - BASIC PLUMBING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Basic requirements common to the Work in general of Division 22 and other Divisions and Sections of the Specification where referenced.
- B. Provide, unless specified otherwise, all labor, materials and equipment necessary for completely finished and operational mechanical systems described and specified under other Sections of this Division 22.
- C. Provide all minor incidental items such as offsets, fittings, and accessories required as part of the Work even though not specified or indicated.
- D. Inspection: Inspect Work preceding or interfacing with Work of Division 22 and report any known or observed defects that affect the Work to the General Contractor. Do not proceed with the Work until defects are corrected.

1.3 REFERENCES

- A. General:
 - 1. For products or workmanship specified by association, trades, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable Codes.
 - 2. The date of the standard is that in effect as the date of the Contract Documents, except when a specific date is specified.
 - 3. When required by individual Specifications Section by means of reference for cleaning or installation requirements, etc., obtain a copy of the standard. Maintain the copy at job site during work until substantial completion. Copy may be in electronic format.
 - 4. Schedule of Referenced Organizations: Reference Section 014210 "Referenced Material" for a list of the acronyms of organizations referenced in these Specifications:

1.4 DEFINITIONS

- A. Conform to Division 01: These Specifications are of abbreviated, simplified, or streamlined type and include incomplete sentences. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the Contract Documents so indicates.
- B. The following words are re-defined and/or elaborated on for the context of Division 22 Work:
1. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
 2. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at Project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
 3. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
 4. General Contractor: The term "General Contractor" used in Division 22 and elsewhere in the Contract Documents means the party with whom the Owner has executed the Owner-Contractor Agreement.

1.5 QUALITY CONTROL

- A. Conform to Division 01. Materials and apparatus required for the Work to be new; to be furnished, delivered, erected, connected and finished in every detail; and to be so selected and arranged so as to fit properly into the building spaces.
- B. Unless otherwise specifically indicated, equipment and materials to be installed in accordance with the recommendations of the Manufacturer. This includes the performance of tests as recommended by the Manufacturer.

1.6 REGULATORY REQUIREMENTS

- A. Comply with latest editions of all applicable Codes, Standards, Ordinances and Regulations in effect as of the date of the Contract Documents including but not necessarily limited to the following:
1. ABMA - American Bearing Manufacturers Association.
 2. ACGIH - American Conference of Governmental Industrial Hygienists.
 3. ACI - American Concrete Institute.
 4. AGA - American Gas Association.
 5. ASHRAE - American Society of Heating, Refrigeration, and Air Conditioning Engineers.
 6. ANSI - American National Standards Institute.
 7. API - American Petroleum Institute.
 8. ASTM - American Society for Testing of Materials.

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9. AWS - American Welding Society.
10. AWWA - American Water Works Association.
11. FM - Factory Mutual Insurance Association.
12. MSS - Manufacturers Standardization Society of the Valve and Fittings Industry.
13. NACE - National Association of Corrosion Engineers.
14. NAPCA - National Association of Pipe Coating Applicators.
15. National Electrical Code NFPA-70.
16. NFPA - National Fire Protection Association.
17. SMACNA - Sheet Metal and Air Conditioning Contractors National Association.
18. SSPC - The Society for Protective Coatings.
19. STI - Steel Tank Institute.
20. UL - Underwriters Laboratories.

- B. If discrepancies occur between the Contract Documents and any applicable Codes, Guidelines, Ordinances, Acts, or Standards, the most stringent requirements shall apply.
- C. Where hourly fire ratings are indicated or required, provide components and assemblies meeting requirements of the American Insurance Association, Factory Mutual Insurance Association and listed by Underwriters Laboratories, Inc.

1.7 PRODUCT OPTIONS AND SUBSTITUTIONS

- A. Substitutions: Refer to Division 01, General Requirements.
- B. Some materials and equipment are specified by Manufacturer and catalog numbers. The Manufacturer and catalog numbers are used to establish a degree of quality and style for such equipment and material.
- C. When alternate or substitute materials and equipment are used, Contractor shall be responsible for space requirements, configurations, performance, changes in bases, supports, structural members and openings in structure, electrical changes and other apparatus and trades that may be affected by their use.
- D. When providing a product and/or service under the qualification of "acceptable equal," Contractor shall be entirely responsible for additional costs incurred due to modifications to the civil, architectural, structural, mechanical, and electrical design that may be required to accommodate the "acceptable equal."
- E. Substitute materials and equipment are only allowed to be provided from the Manufacturers listed as approved.

1.8 SHOP DRAWINGS AND PRODUCT DATA

- A. General: Comply with the General Conditions of the Contract and with Division 01 - General Requirements.

- B. All documents shall be submitted in electronic format. Each submittal shall be in a single security free PDF document. PDF documents shall be compatible with Adobe Acrobat 10.0 or newer. All as-built documents shall be submitted in Revit in accordance with Division 1 requirements.

1.9 CONTRACT RECORD DOCUMENTS

- A. General: Comply with the General Conditions of the Contract and with Division 01 - General Requirements,

1.10 OPERATING AND MAINTENANCE DATA

- A. Plumbing Contractor shall submit electronic copy containing a single PDF file of the entire maintenance manual to the DEN Project Manager, General Contractor for their approval.
- B. The manual shall have:
1. Alphabetical list of all system components including the name, address, and 24-hour phone number of the company responsible for servicing each item during the first year's operation.
 2. Operating instructions for complete system, including emergency procedures for fire or failure of major equipment and procedures for normal starting/operating/shutdown and long-term shutdown.
 3. Maintenance instructions, including valves, valve tag and other identified equipment lists, proper lubricants and lubricating instructions for each piece of equipment and necessary cleaning/replacing/adjusting schedules.
 4. Manufacturer's data on each piece of equipment, including:
 - a. Installation instructions.
 - b. Drawings and specifications (approved shop drawings).
 - c. Parts lists.
 - d. Complete wiring and temperature control diagrams (approved shop drawings).
 5. Each piece identified on any schedule shall be bookmarked in the electronic file by its scheduled tag ID (IE: WH-1)
- C. In addition to the maintenance manual, and keyed to it, the equipment shall be identified and tagged as specified.
1. Identify all starters, disconnect switches, and manually operated controls, except integral equipment switches with permanently applied, legible markers corresponding to operating instructions in the "Maintenance Manual".
 2. Tag all manual operating valves with 1-1/2" diameter brass tags attached with chains. Tags are to be sequence numbered with legible metal stamps.
 3. Provide a typed tag list or schedule mounted under glass in the room designated by DEN Project Manager stating number, location, and function of each tagged item. Insert a copy of tag list in each "Maintenance Manual".

- D. Plumbing Contractor shall be responsible for scheduling instructional meetings for maintenance personnel on the proper operation and maintenance of all mechanical systems, using the maintenance manual as a guide. These meetings must be scheduled through the DEN Project Manager, and General Contractor far enough in advance so that all personnel can be notified.
- E. Division 22 Contractor shall provide proof of performance certification of all Plumbing Equipment and Systems to demonstrate that all Plumbing Equipment and Systems are operating to the intent of the design.

1.11 FINAL OBSERVATION

- A. Comply with the requirements of Division 01 and the following:
 - 1. Prior to the request for final observation, all Work under the contract shall be complete; all systems shall be in proper working order and placed in operation for a minimum duration of 48 hours.
 - 2. All plumbing systems shall be properly functioning with quantities shown on the Drawings, and all water circuits shall be adjusted to provide the proper flows.
 - 3. All equipment shall be cleaned. All debris and construction materials shall be removed from the DEN property to a DEN approved landfill off-airport.
 - 4. Pumps shall be tested in accordance with other Division 22 Sections and shall be in proper working order and placed in operation.
 - 5. The temperature control system shall be complete and in proper working order. All instruments shall be properly and accurately field calibrated.
 - 6. At the request of the DEN Project Manager, a representative of the Contractor who is thoroughly familiar with the Project and operation of the various systems shall be present during the final observation to demonstrate proper operation of the equipment and controls. If requested by the DEN Project Manager, the Contractor shall have representatives from the Contractor's subcontractors present to assist during final observation.

1.12 PROJECT CONDITIONS

- A. Accessibility:
 - 1. Division 22 Contractor shall locate all equipment, which must be serviced, operated, or maintained in fully accessible positions. Such equipment shall include (but not be limited to) valves, shock absorbers, motors, controllers, switchgear, and drain points. If required for better accessibility, furnish access doors for this purpose. Minor deviations from Drawings may be allowed to provide for better accessibility. Any changes shall be approved by the DEN Project Manager prior to making the change.
 - 2. Division 22 Contractor shall provide the General Contractor with the exact locations of access doors for each concealed valve, shock absorber control, damper, or other device requiring service. Locations of these doors shall be submitted in sufficient time to be installed in the normal course of work.
 - 3. Provide carpentry, masonry, concrete and metalwork required for work of this Division where not specifically called for under other Sections.

B. Freeze Protection:

1. Do not run plumbing systems piping in outside walls, or locations where freezing may occur. Piping next to outside walls shall be in furred spaces with insulation between the piping and the outside wall. Insulation of piping shall not be considered freeze protection.

C. Scaffolding, Rigging and Hoisting:

1. Provide all scaffolding, rigging, hoisting and services necessary for erection and delivery into the premises of any equipment and apparatus furnished; remove same from premises when no longer required. Conform to OSHA requirements and standards.

1.13 COORDINATION

- A. General: Coordinate and order the progress of plumbing Work to conform to the progress of the Work of the other trades. Complete the entire installation as soon as the condition of the building will permit.
- B. Coordinate Work with Division 21 Fire Suppression, Division 23 HVAC, Division 26 Electrical, and other Divisions as required to perform the Work.
- C. Existing System Interruptions: Comply with Division 01.
- D. Cutting and Patching: Reference Section 017330 "Cutting and Patching".
- E. Drawings and Specifications: The Plumbing Drawings indicate the general design and arrangement of lines, equipment, systems, etc. Information shown is diagrammatic in character and does not necessarily indicate every required offset, fitting, etc. Do not scale the Drawings for dimensions. Take dimensions, measurements, locations, levels, etc., from the Architectural and Engineering Drawings and equipment to be furnished.
- F. Discrepancies: Examine Drawings and Specifications for other parts of the Work, and if any discrepancies occur between the plans for the Work of this Division and the plans for the work of others, report such discrepancies to the DEN Project Manager and obtain written instructions for any changes necessary.
- G. Order of Precedence: The precedence of construction documents are as Specified in the General Conditions.

1.14 START-UP PROCEDURES

- A. Ensure that all control systems are fully operational in automatic mode.
- B. If systems are not to continue in use following the start-up procedures, steps should be taken to ensure against accidental operation or operation by unauthorized personnel.

- C. Factory personnel shall be notified as appropriate to start systems requiring their services.
- D. Notify the DEN Project Manager in writing a minimum of 72 hours prior to start-up of all major mechanical equipment and systems if no shutdown request is required.
- E. Should there be any equipment found which had not been properly started up, it will be the responsibility of this Contractor to arrange for the appropriate personnel to start up the equipment at the Contractor's expense and at a time as scheduled by the DEN Project Manager.

1.15 SCHEDULE OF TESTING

- A. Provide testing in accordance with the General Conditions of the Contract and as per requirements in Division 22 Sections.
- B. A schedule of testing shall be drawn up by the Division 22 Contractor in such a manner that it will show areas tested, test pressure, length of test, date, time and signature of testing personnel.
- C. Notify the DEN Project Manager, DEN Mechanical Inspector and DEN Mechanical Engineer in writing a minimum of 72 hours prior to testing of any mechanical equipment and systems if no shutdown request is required.
- D. All testing must be performed in the presence DEN Project Manager and or designated representative; the DEN Project Manager's signature for verification of the test must appear on the schedule.
- E. All testing must be performed in accord with the procedures set forth in Division 22 and other Sections of the Specifications where referenced. At completion of testing, the schedule shall then be submitted to the DEN Project Manager.
- F. Ensure operational and performance tests are made on seasonal equipment.
- G. Complete all tests required by Code Authorities, such as health codes, building codes, and safety codes.
- H. After test runs have been completed and systems have been demonstrated to be satisfactory and ready for permanent operation, all permanent pipeline strainers and filters shall be cleaned, valve and pump packing properly adjusted, final adjustments made, drive guards secured in place, lubrication checked and replenished if required.

1.16 CLEANING AND FINISHING

- A. Provide cleaning in accordance with the General Requirements of the Contract

- B. Cleaning shall include but not be limited to removing grease, dirt, dust, stains, labels, fingerprints, and other foreign materials from sight-exposed piping, equipment, fixtures, and other such items installed under Division 22 of the Work. If finishes have been damaged, refinish to original condition and leave everything in proper working order and of intended appearance.

1.17 WARRANTIES

- A. Conform to Division 01: Provide a written warranty covering the entire plumbing Work to be free from defective materials, equipment, and workmanship for a minimum period of two (2) years after date of acceptance. During this period, provide labor and materials as required to repair or replace defects. Provide certificates for such items of equipment, which have or are specified to have warranties in excess of one (1) year.

1.18 CONSTRUCTION WASTE MANAGEMENT

- A. Construction waste shall be managed in accordance with provisions of Section 017419 "Construction Waste Management and Disposal". Documentation shall be submitted to satisfy the requirements of that Section.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 220400

SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following basic mechanical materials and methods to complement other Division 22 Sections.
1. Piping materials and installation instructions common to most piping systems.
 2. Sleeves.
 3. Nonshrink grout for equipment installations.
 4. Field-fabricated metal equipment supports.
 5. Installation requirements common to equipment specification Sections.
 6. Cutting and patching.
 7. Touch up painting and finishing.
- B. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by Alternates.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of Contract, including General and the Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 050510 "Welding"
- C. Section 220400 "Basic Plumbing Requirements".
- D. Section 220553 "Identification for Plumbing Piping and Equipment".

1.3 DEFINITIONS

- A. Pipe, pipe fittings, and piping include tube, tube fittings, and tubing.
- B. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below the roof, spaces above ceilings, unexcavated spaces, crawl spaces, and tunnels.
- C. Exposed Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- D. Exposed Exterior Installations: Exposed to view outdoors, or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

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- E. Concealed Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.
- F. Concealed Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants, but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.4 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract and Division 01 Specification Sections:
 - 1. Shop drawings detailing fabrication and installation for metal and wood supports and anchorage for mechanical materials and equipment.
 - 2. Prepare coordination drawings according to Division 01 Section "Submittals" to a 1/4 inch equals 1 foot scale or larger. Detail major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Show space requirements for installation and access. Show where sequence and coordination of installations are important to the efficient flow of the Work. Include the following:
 - a. Clearances for servicing and maintaining equipment, including space for equipment disassembly required for periodic maintenance.
 - b. Pump metal support details.
 - 3. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the Quality Assurance Article.
 - 4. Floor x-rays and/or ground penetrating radar reports.
 - 5. All documents shall be submitted in electronic format. Each submittal shall be in a single security free PDF document. PDF documents shall be compatible with Adobe Acrobat 10.0 or newer. All as-built documents shall be submitted in Revit in accordance with Division 1 requirements.
 - 6. Contractor shall submit fully dimensioned spool drawings for all welded piping work. Drawings shall indicate all weld types, sizes and materials to be used. The spool drawing size shall match the full size contract documents of either 24"x36" or 34"x44". Spool drawings shall be submitted in electronic format in Revit in compliance with Division 1 requirements. Files shall not contain security. Other file formats will not be accepted.
 - 7. Field Test Reports: Written reports of each pressure tests specified in Division 22 Sections. Include the following:
 - a. Test procedures used.
 - b. Test results that comply with requirements.
 - c. Failed test results and corrective action taken to achieve requirements.

1.5 QUALITY CONTROL

- A. Equipment Selection: Equipment of greater or larger power, dimensions, capacities, and ratings may be furnished provided such proposed equipment is approved in writing by the DEN Project Manager and connecting mechanical and electrical services, circuit breakers, conduit, motors, bases, and equipment spaces are increased. No additional costs will be approved for these increases, if larger equipment is approved. If minimum energy ratings or efficiencies of the equipment are specified, the equipment must meet the design requirements and commissioning requirements.
- B. Electronic Equipment Compliance:
 - 1. Contractor warrants that all equipment, devices, items, systems, software, hardware, or firmware provided shall properly, appropriately, and consistently function and accurately process date and time data (including without limitation: calculating, comparing, and sequencing). This warranty supersedes anything in the Specifications or other Contract Documents which might be construed inconsistently. This warranty is applicable whether the equipment, device, item, system, software, hardware, or firmware is specified with or without reference to a manufacturer's name, make, or model number.
- C. Unless specified otherwise, all materials and equipment shall be of domestic (USA) manufacture and shall be of the best quality used for the purpose in commercial practice.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end-caps. Maintain end-caps through shipping, storage, and handling to prevent pipe-end damage and prevent entrance of dirt, debris, and moisture.
- B. Protect stored, pipes and tubes from moisture and dirt. Elevate above grade. When stored inside, do not exceed structural capacity of the floor.
- C. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.
- D. Protect flanges, fittings, and piping specialties from moisture and dirt.
- E. Deliver fittings with plastic sheeting to protect it from elements. Inspect duct liner for exposure to dirt and tears.

1.7 SEQUENCING AND SCHEDULING

- A. Coordinate plumbing equipment installation with other building components.
- B. Coordinate the installation of required supporting devices.

- C. Sequence, coordinate, and integrate installations of plumbing materials and equipment for efficient flow of the Work.
- D. Coordinate connection of electrical services.
- E. Coordinate installation of identifying devices after completing covering and painting where devices are applied to surfaces.

PART 2 - PRODUCTS

2.1 PIPE AND PIPE FITTINGS

- A. Refer to individual piping system specification Sections for pipe and fitting materials and joining methods.
- B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.2 JOINING MATERIALS

- A. Refer to individual piping system specification Sections in Division 22 for special joining materials not listed below.
- B. Grooved Mechanical Couplings: Acceptable only for fire protection piping; not acceptable for any other applications.
- C. Pipe Flange Gasket Materials: Suitable for the chemical, pressure, and thermal conditions of the piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch maximum thickness, except where thickness or specific material is indicated.
 - a. Full-Face Type: For flat-face, Class 125 cast-iron and cast-bronze flanges.
 - b. Narrow-Face Type: For raised-face, Class 250 cast-iron and steel flanges.
- D. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded. All welding rod is to be kept in an operable rod oven at all times.

2.3 SLEEVE SEALS

- A. Reference Section 220517 "Sleeves and Sleeve Seals for Plumbing Piping" for sleeve seals.

2.4 ESCUTCHEONS

- A. Reference Section 220518 "Escutcheons for Plumbing Piping" for escutcheons.

2.5 GROUT

- A. Nonshrink, Nonmetallic Grout: ASTM C 1107, Grade B.
1. Characteristics: Post-hardening, volume-adjusting, dry, hydraulic-cement grout, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 2. Design Mix: 5000-psi, 28-day compressive strength.
 3. Packaging: Premixed and factory-packaged.

PART 3 - EXECUTION

3.1 PIPING SYSTEMS - COMMON REQUIREMENTS

- A. General: Install piping as described below, except where system Sections specify otherwise. Individual piping system specification Sections in Division 22 specify piping installation requirements unique to the piping system.
- B. General Locations and Arrangements: Drawings indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated, except where deviations to layout are approved on coordination drawings.
- C. Install piping at indicated slope.
- D. Install piping free of sags and bends.
- E. Install piping plumb and at right angles and plumb or parallel to building walls. Diagonal runs are prohibited, except where indicated.
- F. Install piping tight to slabs, beams, joists, columns, walls, and other building elements.
- G. Install fittings for changes in direction and branch connections.
- H. Install couplings according to manufacturer's printed instructions.
- I. Piping Joint Construction: Join pipe and fittings as follows and as specifically required in individual piping system Sections.
1. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
 2. Remove scale, slag, dirt, rust, and debris from inside and outside of pipe and fittings before assembly.
 3. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full inside diameter. Join pipe fittings and valves as follows:

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- a. Note the internal length of threads in fittings or valve ends, and proximity of internal seat or wall, to determine how far pipe should be threaded into joint.
 - b. Apply appropriate tape or thread compound to external pipe threads (except where dry seal threading is specified).
 - c. Align threads at point of assembly.
 - d. Tighten joint with wrench. Apply wrench to valve end into which pipe is being threaded.
 - e. Damaged Threads: Do not use pipe or pipe fittings having threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- J. Piping below apron, concrete slabs or paving shall be encased in flowable backfills.

3.2 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

- A. Install equipment to provide the maximum possible headroom where mounting heights are not indicated.
- B. Install equipment according to approved submittal data. Portions of the Work are shown only in diagrammatic form. Refer conflicts to the DEN Project Manager.
- C. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, except where otherwise indicated.
- D. Install equipment giving right-of-way to piping systems installed at a required slope.

3.3 PAINTING AND FINISHING

- A. Refer to Division 09 Sections for Painting for field painting requirements. Paint color schedule shall conform to ASME A13.1-1996, "Scheme for the Identification of Piping Systems."
- B. Damage and Touch Up: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.4 CONCRETE PENETRATIONS

- A. Reference Section 017330 "Cutting and Patching" for core drilling and saw cutting requirements.
- B. Reference Section 024119 "Selective Demolition" for demolition and removal of selected portions of a building or structure, and repair procedures for selective demolition operations.

- C. All penetrations required through completed concrete construction shall be core drilled or saw cut at minimum size required. All penetrations in concrete require an x-ray or ground penetrating radar to determine if the location is clear of reinforcing steel and embedded systems. Precautions shall be taken when drilling to prevent damage to structural concrete.
 - 1. The Contractor shall provide an interpretation of the x-rays or radar shot and obtain written acceptance from the DEN Project Manager before proceeding with drilling.

3.5 WELDING

- A. Qualify welding processes and operators for structural steel according to AWS D1.1 Structural Welding Code - Steel. See Division 05 for additional requirements.
- B. All welding shall be inspected in process by a contractor-provided, Certified, Independent Testing Agency by an AWS certified welding inspector.
- C. Qualify welding processes and operators for piping according to ASME Boiler and Pressure Vessel Code, Section IX, Welding and Brazing Qualifications.
 - 1. Comply with provisions of ASME B31 Series "Code for Pressure Piping."
 - 2. Certify that each welder has passed AWS qualification tests for the welding processes involved and that certification is current.

3.6 ERECTION OF METAL SUPPORTS AND ANCHORAGE

- A. Refer to Division 05 for structural steel.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.
- C. Field Welding: Comply with AWS D1.1 Structural Welding Code - Steel, as referenced in Part 1.

3.7 DEMOLITION

- A. Refer to Division 01 and Division 02 for general demolition requirements and procedures.
- B. Where pipe, ductwork, insulation, or equipment to remain is damaged or disturbed, remove damaged portions and install new products of equal capacity and quality.
- C. Temporary Disconnection: Remove, store, clean, reinstall, reconnect, and make operational equipment indicated for relocation.
- D. Disconnect, demolish, and remove mechanical systems, equipment, and components indicated to be removed.

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1. Piping to Be Removed: Remove portion of piping and associated supports indicated to be removed, provide a shutoff valve with plug or cap in pressurized systems and cap or plug remaining piping with same or compatible piping material. No piping shall be abandoned in place. Repair insulation.
2. Equipment to Be Removed: Disconnect and cap services and remove equipment.
3. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
4. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
5. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.
6. Repair structure floor, ceilings, roof, slabs from removed supports in accordance with Division 03, Division 05, and Division 09.

3.8 GROUTING

- A. Mix and install grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.
- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases and provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout.

PART 4 - MEASUREMENT**4.1 METHOD OF MEASUREMENT**

- A. No separate measurement shall be made for work under this Section.

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PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 220500

SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal pipe hangers and supports.
 - 2. Trapeze pipe hangers.
 - 3. Fiberglass pipe hangers.
 - 4. Metal framing systems.
 - 5. Fiberglass strut systems.
 - 6. Thermal-hanger shield inserts.
 - 7. Fastener systems.
 - 8. Pipe stands.
 - 9. Pipe positioning systems.
 - 10. Equipment supports.
- B. Related Sections:
 - 1. Section 055000 "Metal Fabrications" for structural-steel shapes and plates for trapeze hangers for pipe and equipment supports.
- C. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by Alternates.

1.3 WORK FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- A. Furnish hanger and support inserts and sleeves to Division 03 contractor for placement into formwork.
- B. .

1.4 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A.

- B. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by Alternates.

1.5 DEFINITIONS

- A. MSS: Manufacturers Standardization Society of the Valve and Fittings Industry Inc.

1.6 REFERENCES

- A. Materials and workmanship shall conform to the latest issue of all industry standards, publications, or regulations referenced in this section and with the following references as applicable. Refer to Section 014200 "References" for listing of issuing organizations or agencies.
- B. Applicable Standards:
 - 1. American Welding Society (AWS):
 - a. D1.1 - Structural Welding Code - Steel.
 - b. D1.2 - Structural Welding Code - Aluminum.
 - c. D1.3 - Structural Welding Code - Sheet Steel.
 - d. D1.4 - Structural Welding Code - Reinforcing Steel.
 - 2. ASME International (ASME):
 - a. B31.1 - Power Piping.
 - b. B31.9 - Building Services Piping.
 - 3. Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualification".
 - 4. ASTM International (ASTM):
 - a. A36/A37M - Carbon Structural Steel.
 - b. A780 - Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 - c. C533 - Calcium Silicate Block and Pipe Thermal Insulation.
 - d. C552 - Cellular Glass Thermal Insulation.
 - e. C1107 - Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
 - 5. The International Association of Plumbing and Mechanical Officials (IAPMO):
 - a. PS42 - Pipe Alignment and Secondary Support Systems.
 - 6. International Fire Code (IFC) with the Denver Amendments
 - 7. International Building Code (IBC) with the Denver Amendments.
 - 8. Manufacturers Standardization Society of The Valve and Fittings Industry Inc. (MSS SP):

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- a. 58 - Pipe Hangers and Supports - Materials, Design and Manufacture.
 - b. 69 - Pipe Hangers and Supports - Selection and Application.
 - c. 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
 - d. 90 - Guidelines on Terminology for Pipe Hangers and Supports.
- 9. Metal Framing Manufacturers Association (MFMA):
 - a. 3 - Metal Framing Standards Publication.
 - b. 102 - Guidelines for the Use of Metal Framing.
- 10. National Fire Protection Association (NFPA)
 - a. NFPA 13 - Installation of Sprinkler Systems.
 - b. NFPA 14 - Installation of Standpipe and Hose Systems.
- 11. The Society for Protective Coatings (SSPC):
 - a. PA1 - Paint Application Specification No. 1: Shop, Field , and Maintenance Painting of Steel.
- 12. Underwriters' Laboratories (UL):
 - a. UL 203 - Pipe Hanger Equipment for Fire Protection Service.

1.7 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design trapeze pipe hangers and equipment supports, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
 - 1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.
 - 2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
 - 3. Design seismic-restraint hangers and supports for piping and equipment and obtain approval from authorities having jurisdiction.

1.8 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, and as follows:
 - 1. Steel pipe hangers and supports.
 - 2. .
 - 3. Pipe positioning systems.

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4. Include data substantiating that materials comply with requirements.
- B. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details and include calculations for the following; include Product Data for all components:
1. Trapeze pipe hangers.
- C. Design Data: Indicate load carrying capacity of trapeze, multiple pipe, and riser support hangers.
- D. Refer to Section 220400 "Basic Plumbing Requirements" for coordination requirements.
- E. Delegated-Design Submittal: For trapeze hangers indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
1. Detail fabrication and assembly of trapeze hangers.
 2. Design Calculations: Calculate requirements for designing trapeze hangers.

1.9 INFORMATIONAL SUBMITTALS

- A. Welding certificates.

1.10 CLOSEOUT SUBMITTALS

- A. As-Built Plans: Submit complete as-built plans of all Work, including interface with other Work, in accordance with requirements as specified in Section 013300 "Submittal Procedures".

1.11 QUALITY ASSURANCE

- A. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
1. Retain applicable standards below. At a minimum AWS D1.1 is required.
 - a. AWS D1.2.
 - b. AWS D1.3.
 - c. AWS D1.4.
- B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

1.12 CONSTRUCTION WASTE MANAGEMENT

- A. Construction waste shall be managed in accordance with provisions of Section 017419 "Construction Waste Management and Disposal". Documentation shall be submitted to satisfy the requirements of that Section.

PART 2 - PRODUCTS

2.1 TRAPEZE PIPE HANGERS

- A. Description: MSS SP-69, Type 59, shop- or field-fabricated pipe-support assembly made from structural carbon-steel shapes with MSS SP-58 carbon-steel hanger rods, nuts, saddles, and U-bolts.

2.2 FASTENER SYSTEMS

- A. Mechanical-Expansion Anchors: Insert-wedge-type, zinc-coated or stainless steel anchors, for use in hardened Portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- a. B-Line Systems, Inc.; a division of Cooper Industries.
 - b. Hilti, Inc.
 - c. ITW Ramset/Red Head.
 - d. or approved equal.

2.3 PIPE POSITIONING SYSTEMS

- A. Description: IAPMO PS 42, positioning system of metal brackets, clips, and straps for positioning piping in pipe spaces; for plumbing fixtures in commercial applications.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- a. C & S Mfg. Corp.
 - b. HOLDRITE Corp.; Hubbard Enterprises.
 - c. Samco Stamping, Inc.
 - d. or approved equal.

2.4 MISCELLANEOUS MATERIALS

- A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

- B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
 - 1. Properties: Nonstaining, noncorrosive, and nongaseous.
 - 2. Design Mix: 5000-psi, 28-day compressive strength.

PART 3 - EXECUTION

3.1 PIPE HANGERS AND SUPPORTS

- A. Support horizontal piping as required and in accordance with spans and hanger rod sizes based on MSS SP-69 recommendations. Hanger rod sizes are based on single-rod hangers using ASTM A36-81A or ASTM A575-81 Gr 1020 steel.
 - 1. If local codes or special design considerations necessitate shorter spans or larger rod sizes, they shall govern. Contractor shall adjust requirements as necessary for conditions such as increase in loading caused by valves, fittings, or other conditions.
- B. Support cast iron piping at each joint and in accordance with applicable codes and standards.
- C. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.
- D. Place a hanger within 12 inches of each horizontal elbow.
- E. Use hangers with 1-1/2 inch minimum vertical adjustment.
- F. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 3: 60 inches with 1/2-inch rod.
 - 2. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
 - 3. NPS 6: 60 inches with 3/4-inch rod.
- G. Support vertical piping at every floor. Support vertical cast iron pipe at each floor and at each hub.
- H. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- I. Support riser piping independently of connected horizontal piping.
- J. At changes in pipe flow direction, install piping sufficiently spaced to allow pipe movement without crushing insulation.
- K. Mechanical systems shall not share supports and/or hangers with any other systems.

- L. Fireproofing: Where hangers require removal of fire proofing, remove minimum amount of fireproofing for hanger attachment. Repair fireproofing per Division 07 Sections.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Metal Trapeze Pipe-Hanger Installation: Comply with MSS SP-69 and MSS SP-89. Arrange for grouping of parallel runs of horizontal piping, and support together on field-fabricated trapeze pipe hangers.
 - 1. Pipes of Various Sizes: Support together and space trapezes for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers.
 - 2. Field fabricate from ASTM A 36/A 36M, carbon-steel shapes selected for loads being supported. Weld steel according to AWS D1.1/D1.1M.
- B. Fastener System Installation:
 - 1. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Insert wedge type expansion shell or shield should be flush with concrete surface in which it is set. This requires the hole in the concrete to be of sufficient depth to accommodate total insertion. Install fasteners according to manufacturer's written instructions.
- C. Pipe Positioning-System Installation: Install support devices to make rigid supply and waste piping connections to each plumbing fixture. Reference other Division 22 Sections for plumbing fixtures.
- D. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- E. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- F. Install lateral bracing with pipe hangers and supports to prevent swaying.
- G. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 and larger and at changes in direction of piping. Install concrete inserts before concrete is placed; fasten inserts to forms and install reinforcing bars through openings at top of inserts.
- H. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- I. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

- J. X-ray or GPR concrete to locate structural reinforcements prior to drilling for anchors. Reinforcements are to be avoided.

3.3 METAL FABRICATIONS

- A. Cut, drill, and fit miscellaneous metal fabrications for trapeze pipe hangers and equipment supports.
- B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.
- C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.

3.4 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.5 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. Touchup: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal are specified in Section 099123 "Interior Painting."
- C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.6 HANGER AND SUPPORT APPLICATIONS

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.
- D. Use nonmetallic coatings on attachments for electrolytic protection where attachments are in direct contact with copper tubing.
- E. Use carbon-steel pipe hangers and supports, metal trapeze pipe hangers and metal framing systems and attachments for general service applications.
- F. Use stainless-steel pipe hangers and stainless-steel or corrosion-resistant attachments for hostile environment applications.
- G.
- H. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated, stationary pipes NPS 1/2 to NPS 30.
 - 2. Yoke-Type Pipe Clamps (MSS Type 2): For suspension of 120 deg F to 450 deg F, pipes NPS 4 to NPS 24, requiring up to 4 inches of insulation.
 - 3. Carbon- or Alloy-Steel, Double-Bolt Pipe Clamps (MSS Type 3): For suspension of pipes NPS 3/4 to NPS 36, requiring clamp flexibility and up to 4 inches of insulation.
 - 4. Steel Pipe Clamps (MSS Type 4): For suspension of cold and hot pipes NPS 1/2 to NPS 24 if little or no insulation is required.
 - 5. Pipe Hangers (MSS Type 5): For suspension of pipes NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
 - 6. Adjustable, Swivel Split- or Solid-Ring Hangers (MSS Type 6): For suspension of noninsulated, stationary pipes NPS 3/4 to NPS 8.
 - 7. Adjustable, Steel Band Hangers (MSS Type 7): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
 - 8. Adjustable Band Hangers (MSS Type 9): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 8.
 - 9. Adjustable, Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 2.
 - 10. Split Pipe Ring with or without Turnbuckle Hangers (MSS Type 11): For suspension of noninsulated, stationary pipes NPS 3/8 to NPS 8.
- I. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:

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1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 20.
 2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers NPS 3/4 to NPS 20 if longer ends are required for riser clamps.
- J. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Steel or Malleable Concrete Inserts (MSS Type 18): For upper attachment to suspend pipe hangers from concrete ceiling.
 2. Top-Beam C-Clamps (MSS Type 19): For use under roof installations with bar-joint construction, to attach to top flange of structural shape.
 3. Side-Beam or Channel Clamps (MSS Type 20): For attaching to bottom flange of beams, channels, or angles.
 4. Center-Beam Clamps (MSS Type 21): For attaching to center of bottom flange of beams.
 5. Welded Beam Attachments (MSS Type 22): For attaching to bottom of beams if loads are considerable and rod sizes are large.
 6. C-Clamps (MSS Type 23): For structural shapes.
 7. Top-Beam Clamps (MSS Type 25): For top of beams if hanger rod is required tangent to flange edge.
 8. Side-Beam Clamps (MSS Type 27): For bottom of steel I-beams.
 9. Steel-Beam Clamps with Eye Nuts (MSS Type 28): For attaching to bottom of steel I-beams for heavy loads.
 10. Linked-Steel Clamps with Eye Nuts (MSS Type 29): For attaching to bottom of steel I-beams for heavy loads, with link extensions.
 11. Malleable-Beam Clamps with Extension Pieces (MSS Type 30): For attaching to structural steel.
 12. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:
 - a. Light (MSS Type 31): 750 lb.
 - b. Medium (MSS Type 32): 1500 lb.
 - c. Heavy (MSS Type 33): 3000 lb.
 13. Side-Beam Brackets (MSS Type 34): For sides of steel or wooden beams.
 14. Plate Lugs (MSS Type 57): For attaching to steel beams if flexibility at beam is required.
 15. Horizontal Travelers (MSS Type 58): For supporting piping systems subject to linear horizontal movement where headroom is limited.
- K. Comply with MSS SP-69 for trapeze pipe-hanger selections and applications that are not specified in piping system Sections.
- L. Use mechanical-expansion anchors instead of building attachments where required in concrete construction.

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PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 220529

SECTION 220553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe labels.
 - 2. Stencils.
- B. Alternates: Refer to Division 01 Section 012300 "Alternates" for description of Work in this Section affected by Alternates.

1.3 REFERENCES

- A. Materials and workmanship shall conform to the latest issue of all industry standards, publications, or regulations referenced in this section and with the following references as applicable. Refer to Section 014200 "References" for listing of issuing organizations or agencies.
- B. Applicable Standards:
 - 1. American Society of Mechanical Engineers (ASME).
 - 2. ASME A13.1 - Scheme for the Identification of Piping Systems.
 - 3. International Building Code (IBC) with the Denver Amendments.
 - 4. International Fire Code (IFC) with the Denver Amendments.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Provide manufacturers catalog literature for each product required.
 - 1. Include data substantiating that materials comply with requirements.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.

1.5 CLOSEOUT SUBMITTALS

- A. "As Built" Plans shall be provided in the same format and manner as described above. Each set shall be equipped with a plan holder equal to "Stacor Plan Clamps" for the appropriate size drawings.
1. Record actual locations of all tagged valves.

1.6 COORDINATION

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

1.7 CONSTRUCTION WASTE MANAGEMENT

- A. Construction waste shall be managed in accordance with provisions of Section 017419 "Construction Waste Management and Disposal". Documentation shall be submitted to satisfy the requirements of that Section.

PART 2 - PRODUCTS**2.1 ACCEPTABLE MANUFACTURERS**

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. W.H. Brady Co.
 2. Panduit Corp.
 3. Seton Name Plate Corp.
 4. Marking Services, Inc.
 5. or approved equal.

2.2 MATERIALS

- A. Color: Unless specified otherwise, conform with ASME A13.1.
- B. Plastic Nameplates: Laminated three-layer plastic with engraved black letters on light contrasting background color.
- C. Stencils: With clean cut symbols and letters of 2-1/2 inch size.

- D. Stencil Paint: In accordance with Division 09 sections, semi-gloss enamel.
- E. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.

2.3 PIPE LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.
- B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to partially cover circumference of pipe and to attach to pipe without fasteners or adhesive.
- C. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- D. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings, pipe size, and an arrow indicating flow direction.
 - 1. Flow-Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: At least 1-1/2 incheshigh.

2.4 STENCILS

- A. Stencils: Prepared with letter sizes according to ASME A13.1 for piping; and minimum letter height of 3/4 inch for access panel and door labels, equipment labels, and similar operational instructions.
 - 1. Stencil Material: Fiberboard or metal.
 - 2. Stencil Paint: Exterior, gloss, acrylic enamel black unless otherwise indicated. Paint may be in pressurized spray-can form.
 - 3. Identification Paint: Exterior, acrylic enamel in colors according to ASME A13.1 unless otherwise indicated.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.
- B. Clean to identification tag/equipment manufacturer's instructions.

- C. Prepare surfaces in accordance with Division 09 for stencil painting.

3.2 PIPE LABEL INSTALLATION

- A. Identify piping, concealed or exposed, with plastic pipe markers. Tags may be used on 1/2" or smaller diameter non-insulated piping. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping.
- B. Locate pipe labels where piping is exposed or above accessible ceilings in finished spaces; machine rooms; accessible maintenance spaces such as shafts, tunnels, and plenums; and exterior exposed locations as follows:
 - 1. Near each valve and control device.
 - 2. Near each branch connection, excluding short takeoffs for fixtures and terminal units. Where flow pattern is not obvious, mark each pipe at branch.
 - 3. Each side of penetrations through walls, floors, ceilings, inaccessible enclosures, and at each obstruction.
 - 4. At access doors, manholes, and similar access points that permit view of concealed piping.
 - 5. Near major equipment items and other points of origination and termination.
 - 6. Spaced at maximum intervals of 10 feet along each run.

3.3 PIPING IDENTIFICATION SCHEDULE

- A. Pipe identification and color coding for general-use piping systems shall be in accordance with the following schedule:

Classification:	Band Color:	Stenciled Legend:
Roof Drain	Green	Roof Drain

*Paint entire pipe color indicated except, for vent piping exposed on exterior of building, paint pipe to match wall color. Certain locations may be exempt by direction of DEN Project Manager.

- B. Paint exterior piping and duct systems to match wall colors.

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

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PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 220553

SECTION 221413 - STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. This Section specifies the following:
 - 1. Pipe and Tube Materials:
 - a. Roof Drainage
 - 2. Drainage Piping Specialties:
 - a. Cleanouts
 - b. Area Drains

1.2 DEFINITIONS

- A. Drainage System: Includes all the piping within a public or private premises which conveys rain water to a point of disposal. It does not include the mains of public sewer systems or a private or public sewage treatment or disposal plant.

1.3 ACTION SUBMITTALS

- A. Shop Drawings: For fabricated items, indicate dimensions, weights, and placement of openings and holes.
 - 1. Show fabrication and installation details for frost-resistant vent terminals.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Record actual locations of equipment, cleanouts, backflow preventers.
- B. Operation and Maintenance Data: For drainage piping specialties to include in emergency, operation, and maintenance manuals.
 - 1. Include installation instructions, spare parts lists, exploded assembly views.
 - 2. Indicate frequency of treatment required for interceptors.
- C. As-Built Plans: Submit complete as-built plans of all Work, including interface with other Work, in accordance with requirements as specified in Section 013300 "Submittal Procedures".

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with the provisions of the following:

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1. Plumbing Code Compliance: Comply with applicable portions of Denver and International Plumbing Code.
2. ANSI Compliance: Comply with applicable ANSI standards pertaining to materials, products, and installation of soil and waste systems.
3. ASSE Compliance: Comply with applicable ASSE standards pertaining to materials, products, and installation of soil and waste systems.
4. ASTM Compliance: Comply with applicable ASTM Standards pertaining to materials, products, and installation of soil and waste systems.
5. CISPI Compliance: Comply with applicable CISPI Standards pertaining to materials, products, and installation of soil and waste systems.
6. PDI Compliance: Comply with applicable PDI standards pertaining to products and installation of soil and waste systems.

PART 2 - PRODUCTS

2.1 ROOF DRAINAGE

- A. Above Grade – 30 Feet of Head or Less:
 1. Pipe 1-1/2 Inch to 10-Inch: Service class hubless cast iron soil pipe: CISPI 301, ASTM A888.
 - a. Joining Material: Wide Body Couplings
 - 1) For ASTM A888 pipe, ASTM C1540 assembly of Type 304 stainless steel clamp and shield with a minimum thickness of 0.015-inch or greater, ASTM C564 elastomeric sealing sleeve. Sealing bands shall require 80-inch pounds of torque per band.
 - 2) Wide body couplings as follows:
 - a) Pipe 1-1/2 Inch to 4-Inch: 3-Inch sleeve with four (4) clamps.
 - b) Pipe 5 & 6 Inch: 4-Inch sleeve with six (6) clamps.
 - c) Coupling shall be manufactured in USA.
 2. Manufacturers (Cast Iron Pipe):
 - a. Tyler Pipe
 - b. AB&I
 - c. Charlotte Pipe & Foundry
- B. Above Grade – 30 Feet of Head or Greater:
 1. Pipe 3-Inch to 10-Inch: Schedule 40 galvanized steel pipe with galvanized cast iron drainage fittings and threaded joints; or Schedule 40 grooved galvanized steel pipe joined with rigid couplings and gaskets designed for water service, molded of materials conforming to ASTM D-2000. Full lengths of pipe shall be utilized to greatest extent possible. Prior to transitioning to Hub and Spigot Piping at floor level, install a tee fitting for cleanout purposes. Material to be galvanized steel tee and removable cap rated for pressure piping, rated at 250 PSI minimum. Pipe and fittings shall be of domestic manufacture, or receive prior approval of the Engineer.

2.2 DRAINAGE PIPING SPECIALTIES

- A. Acceptable Manufacturers:

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1. Smith (Jay R.) Mfg. Co.
 2. Tyler Pipe; Subs. of Tyler Corp.
 3. Watts
- B. Cleanouts:
1. Cleanout Plugs: ASTM A74, Cast brass, threads complying with ANSI B2.1, and Local Plumbing Code.
 2. Wall Cleanout: Cleanout tee with raised head brass plug tapped for 1/4-20 thread; flat style chrome plated wall cover plate with holes for 1/4-inch bolt; 1/4-20 threaded bolt with chrome plated flat head or provide fire rated access panel/assembly compatible with the wall rating.
 3. Line Cleanout: Cast iron tapped cleanout ferrule with raised head brass plug.
- C. Area Drains:
1. Refer To Plumbing Fixture Schedule On Drawings
 - a. Standard: ASME A112.6.3.
 - b. Material: Cast iron.
 - c. Flange: Seepage.
 - d. Outlet: As Indicated in drawings.
 - e. Grate Material: Ductile iron.
 - f. Grate Finish: Duco Coated.
 - g. Top Loading Classification: Heavy Duty.
 - h. Trap Material: Cast iron.
 - i. Grate: Heavy Duty ADA Tractor Grate.
 - j. Vandal Proof
 2. Standard: ASME A112.6.3 for trench drains.
 3. Material: Ductile iron.
 4. Flange: Seepage.
 5. Clamping Device: Required.
 6. Outlet: As Indicated in drawings.
 7. Grate Material: Ductile iron.
 8. Grate Finish: Duco Coated.
 9. Top Loading Classification: Heavy Duty.
 10. Trap Material: Cast iron.
 11. Grate: ADA Grate.
 12. Vandal Proof

PART 3 - EXECUTION

3.1 EXAMINATION

- A. General: Install piping in accordance with Authorities Having Jurisdiction, except where more stringent requirements are indicated.
- B. Inspect piping before installation to detect apparent defects. Mark defective materials with white paint and promptly remove from site.
- C. Verify all dimensions by field measurements. Verify that all drainage piping and specialties may be installed in accordance with pertinent codes and regulations, the original design, and the referenced standards.

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- D. Verify all existing grades, inverts, utilities, obstacles, and topographical conditions prior to installations.
- E. Examine walls, floors, roof, and plumbing chases for suitable conditions where piping and specialties are to be installed.
- F. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PIPING INSTALLATION

- A. Install plumbing drainage piping with 1/4-inch per foot (2 percent) downward slope in direction of drain for piping 3-inch and smaller, and 1/8-inch per foot (1 percent) for piping 4-inch and larger.
- B. Provide thrust restraints consisting of bracing to structure and rodded joints at branches and changes in direction for cast iron pipe 5-inches and larger suspended within the building and for all changes in diameter greater than two pipe sizes IPC 308.7.1.
- C. Provide sway bracing to prevent shear at joints on cast iron piping suspended in excess of 18-inches on single rod hangers.
- D. Provide rigid support sway bracing at all changes in direction greater than 45 degrees for all suspended cast iron piping for pipe sizes 4-inch and larger IPC 308.6.
- E. Lay piping beginning at low point of system, true to grades and alignment indicated, with unbroken continuity of invert.
- F. Place bell ends or groove ends of piping facing upstream.
- G. Install gaskets in accordance with manufacturer's recommendations for use of lubricants, cements, and other special installation requirements.
- H. Install trench drains at low points of surface areas to be drained. Set grates of drains flush with finished surface, unless otherwise indicated.
- I.

3.3 INSTALLATION OF PIPING SPECIALTIES

- A. Cleanouts: Lubricate plugs with mixture of graphite and linseed oil. Prior to building turnover remove cleanout plugs, re-lubricate and reinstall using only enough force to ensure permanent leakproof joint.
 - 1. Above Ground Cleanouts: Install in above ground piping and building drain piping as indicated, and:
 - a. As required by Plumbing Code;
 - b. At each change in direction of piping greater than 45 degrees below slab;
 - c. At minimum intervals of 50-feet;
 - d. At base of each vertical soil or waste stack;
 - e. At egress of building (surface cleanout).
 - 2. Cleanout Covers: Install floor and wall cleanout covers for concealed piping, types as indicated, and in accessible locations.
- B. Drains:

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1. Install drains at low points of surface areas,

3.4 SERVICE CONNECTIONS

3.5 FIELD QUALITY CONTROL

- A. Inspections:
1. Do not enclose, cover, or put into operation drainage piping system until it has been inspected and approved by the Authority Having Jurisdiction.
 2. During the progress of the installation, notify the Plumbing Official Having Jurisdiction, at least forty-eight (48) hours prior to the time such inspection must be made. Perform tests specified below in the presence of the Plumbing Official.
 - a. Rough-In Inspection: Arrange for inspection of the piping system before concealed or closed-in after system is roughed-in, and prior to setting fixtures.
 - b. Final Inspection: Arrange for a final inspection to observe the tests specified and to insure compliance with the requirements of the Plumbing Code.
 3. Re-Inspections: Whenever the piping system fails to pass the test or inspection, make the required corrections, and arrange for re-inspection.
 4. Reports: Prepare inspection reports, signed by the Plumbing Official.
- B. Piping System Test: Test drainage and vent system in accordance with the procedures of the Authority Having Jurisdiction, or in the absence of a published procedure, as follows.
1. Subject all drain piping to a water test.
 2. Tightly close all openings in the piping system except the highest opening, and fill the system with water to the point of overflow.
 3. Maintain water in the system, or in the portion under test, for at least fifteen (15) minutes before inspection starts; the system shall then be tight to all points. No section shall be tested with less than a 10-foot head of water.
 4. Close drains at the lowest point and fill with water to the point of overflow.

3.6 ADJUSTING AND CLEANING

- A. Clean interior of piping. Remove dirt and debris as work progresses.
- B. Clean drain strainers, domes, and traps. Remove dirt and debris.

3.7 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

3.8 DEMONSTRATION

- A. Engage a factory-authorized service representative to assist Contractor and train Owner's maintenance personnel to adjust, operate, and maintain trap seal primer systems. Refer to Section 017900 "Demonstration and Training."

PART 4 - MEASUREMENT

4.1 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.1 METHOD OF PAYMENT

- A. No separate payment will be made for work under this Section. The cost of the work described in this Section shall be included in the Lump Sum Contract price.

END OF SECTION 221413

SECTION 312400

EXCAVATION AND EMBANKMENTS – ROADS AND BRIDGES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Work shall follow the latest version of the Colorado Department of Transportation (CDOT) Standard Specifications for Road and Bridge Construction Section 203 Excavation and Embankment.
- B. All materials and construction shall follow the latest version of the CDOT Standard Specifications for Road and Bridge Construction and the latest version of the CDOT Standard Plans M & S Standards and all referenced sections therein.
 - 1. CDOT General Provisions consisting of Section 100 through 109 of the above referenced "Standard Specifications" do not apply to this specification except where specifically added.
- C. The following shall apply to this specification:
 - 1. Section 101 Definitions and Terms.
 - 2. Section 105 Control of Work, with the following exceptions:
 - a. If there are any conflicts with the City and County of Denver's General Provisions, General Conditions, Special Conditions or Technical Specifications and this specification Section, those documents will take precedence over this specification Section.
 - b. Any reference to incentives shall be disregarded. No incentives will be paid as a result of these specifications. References to disincentives, corrective work or removal and rejections of work and/or materials shall apply.
 - c. Section 105.21 Acceptance shall not apply.
 - d. Section 105.22 through 10.24 shall not apply.
 - 3. Section 106 Control of Material.
 - 4. Section 109.1 Measurement of Quantities.
- D. All materials including concrete mix designs shall be currently listed on the CDOT Approved Products List or as approved by the DEN Project Manager.

1.03 REFERENCES

- A. All references to "CDOT or the Department" shall be changed to "City and County of Denver" unless otherwise noted.
- B. All references to the "CDOT Project Engineer" and "CDOT Regional Transportation Director" shall mean "DEN Project Manager" and "DEN Director".
- C. Any and all reference to incentives or positive pay factors within any documents pertaining

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to these specifications shall not apply. No incentives or increase pay factors will be paid on this Project. References to disincentives, negative pay factors, corrective work or removal and rejection of work and/or materials shall apply.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

PART 4 - MEASUREMENT

4.01 METHOD OF MEASUREMENT

- A. No separate measurement shall be made for work under this Section.

PART 5 - PAYMENT

5.01 METHOD OF PAYMENT

- A. No separate payment will be made for work under this section. The cost of the work described in this section shall be included in the applicable unit price item, work order or lump sum bid item.

END OF SECTION 033000

**SECTION 321723
PAVEMENT MARKINGS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes painted markings applied to concrete pavement.

1.2 RELATED REFERENCES

- A. Products and application shall comply with CDOT's Standard Specifications for Road and Bridge Construction, current addition.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

PART 2 - PRODUCTS

2.1 PAVEMENT-MARKING PAINT

- A. Pavement-Marking Paint:
1. All pavement marking materials shall be selected from the Department's Approved Products List (APL). Prior to start of work, a Certificate of Compliance (COC) for all pavement marking materials shall be submitted in accordance with subsection 106.13.
 2. *Low Temperature Acrylic Waterborne Paint.* Low Temperature Acrylic Waterborne Paint binder (nonvolatile portion of vehicle) shall be 100 percent XSR acrylic polymer, by weight, as determined by infrared analysis or other chemical analysis available to the Department.
 3. Color:
 - a. Federal Standard No. 595B-17925. The Yellowness Index (YI) of white shall not exceed 8.0 per ASTM E-313-10 initially. The color after drying shall be a flat-white, free from tint, and shall provide the maximum amount of opacity and visibility under both daylight and artificial light.

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DIVISION 32 – EXTERIOR IMPROVEMENTS
SECTION 321723 - PAVEMENT MARKINGS**

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PART 3 - EXECUTION

3.1 PREPARATION

- A. Comply with requirements listed in CDOT's Standard Specifications for Road and Bridge Construction.

3.2 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for a minimum of 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 - 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils. Apply paint so that it cannot run beneath the stencil.
 - 2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal..

END OF SECTION 321723

SECTION 321726

TACTILE WARNING SURFACING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes Specifications for furnishing and installing Surface Applied Detectable Warning Surface Panels (SA) with an in-line truncated dome pattern surface applied to existing concrete walkways at pedestrian crossings, boarding platforms, and rail crossing locations to the dimensions shown on the Drawings, in accordance with the Contract Documents and as directed by the Engineer.

1.03 SUBMITTALS

- A. Product Data Sheet: Submit ADA Solutions literature describing products, installation procedures and routine maintenance.
- B. Samples for Verification Purposes: Submit two (2) detectable warning surface panel samples. Samples shall be properly labeled and shall contain the following information: Name of Project, Submitted By, Date of Submittal, and Manufacturer's Name.
- C. Shop Drawings: Submit the Standard Manufacturer Shop Drawings showing all pertinent characteristics of the Surface Applied Detectable Warning Surface Panels (SA) including profile, panel surface profile, plans of panel placement including joints, and material to be used as well as outlining installation materials and procedures.
- D. Material Test Reports: Submit all completed current test results from qualified, accredited independent testing laboratories by ASTM and UL/Canada guidelines and indicating that materials proposed for use follow specification requirements and meet or exceed the properties indicated on these specifications.
- E. Maintenance Instructions: Submit copies of the manufacturer's specified installation and maintenance practices for each type of Detectable Warning Surface panels and accessories as required.

1.04 QUALITY ASSURANCE

- A. Provide Surface Applied Detectable Warning Surface Panels (SA) and accessories as produced by a single manufacturer with a minimum of five years of experience in manufacturing Surface Applied Detectable Warning Surface Panels.
- B. Installer's Qualifications: Engage an experienced installer certified in writing by Surface Applied Detectable Warning Surface Panel (SA) manufacturer as qualified for installation, who has completed installations similar in material, design, and extent to that indicated for the Contract.
- C. Surface Applied Detectable Warning Surface Panels (SA) must be compliant with the following guidelines and requirements (applicability may be dependent on project location):

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1. American Barriers Act (ABA) Accessibility Standards
2. ADA Accessibility Guidelines (ADAAG)
3. Department of Transportation ADA Standards for Transportation Facilities (2006)
4. Department of Justice ADA Standards (2010)
5. Public Rights-of-Way Accessibility Guidelines (PROWAG)
6. California Building Standards Code, Title 24, California Code of Regulations
7. Texas Accessibility Standards (TAS) 2012
8. AASHTO M 333 Standard Specification for Detectable Warning Surfaces
9. International Code Council (ICC) A117.1 Accessible and Usable Buildings and Facilities

D. Surface Applied Detectable Warning Surface Panels (SA) shall meet or exceed the following test criteria using the most current test methods:

Standard	Standard Description	Value
ASTM D695	Compressive Strength	28,900 psi minimum
ASTM D790	Flexural Strength	29,300 psi minimum
ASTM D 638	Tensile Strength	11,600 psi minimum
ASTM C 1028	Standard Test Method for Determining the Static Coefficient of Friction (Slip Resistance)	1.18 Dry / 1.05 Wet
AS HB198:2014 (AS/NZS 4586)	Pendulum Sustainable Slip Resistance (SSR)	Pendulum Test Value (PTV), with Four S (96) hard rubber slider: 56 Dry / 44 Wet; After 500 cycles of abrasion: 34 Wet
ASTM C501	Abrasion Resistance	Minimum 500
FM 5-594	Abrasion Resistance, Florida Method	Average Volume Loss: no more than 0.03 cm ³
NTPEP TP103 (2015)	High Temperature Thermal Cycling Exposure, (Sect 14) and Resistance to Impact from Falling Tup (Sect 10)	Min. 60 thermal cycles at 200°F (93.33°C) = maximum damage classification of 'C' at 20 ft-lb impact
ASTM G155	Accelerated Weathering	ΔE<5.0 at 2,000 hours min.
ASTM D570	Water Absorption	0.07%
ASTM C1026	Freeze/Thaw/Heat	No deterioration
ASTM D1037	Freeze/Thaw	No deterioration
ASTM D543	Chemical Stain Resistance	No reaction
ASTM D1308	Chemical Stain Resistance	No reaction
ASTM-B117	Salt and Spray	No change after 200 hours
ASTM E84	Flame Spread Index	20
AASHTO H20	Load Bearing Test	No Damage at 16,000 lbs.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Surface Applied Detectable Warning Surface Panels (SA) shall be suitably packaged or crated to prevent damage in shipment and handling. Finished surfaces shall be protected by sturdy plastic wrappings to protect the panel from concrete residue during installation.
- B. Surface Applied Detectable Warning Surface Panels (SA) shall be delivered to a location at the building site for storage before installation. Store panels in an area that is within an acceptable temperature range 40°F - 90°F (4°C - 32°C) and maintain the storage facility in a clean, dry condition to prevent contamination or damage to the panels.

1.06 SITE CONDITIONS

- A. Environmental Conditions and Protection: Maintain a minimum temperature of 40°F (4°C) in spaces to receive Surface Applied Detectable Warning Surface Panels (SA) for at least 24 hours before installation, during installation, and for not less than 24 hours after installation.
- B. The use of water for work, cleaning, or dust control, etc. shall be contained and controlled and shall not be allowed to come in to contact with the general public. Provide barricades or

screens to protect pedestrians.

1.07 MANUFACTURER’S WARRANTY

- A. Surface Applied Detectable Warning Surface Panels (SA) shall be guaranteed in writing for a period of seven (7) years from date of Contract’s final completion. The guarantee includes manufacturing defects, breakage, and deformation.

1.08 INSTALLATION WARRANTY

- A. Surface Applied Detectable Warning Surface Panels (SA) installation shall be warranted in writing for two (2) years by the installer. Products must be guaranteed from defective work and loosening of panels.

PART 2 - PRODUCTS

2.01 TACTILE WARNING SURFACING, GENERAL

- A. Accessibility Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for tactile warning surfaces.
- B. 1. For tactile warning surfaces composed of multiple units, provide units that when installed provide consistent side-to-side and end-to-end dome spacing that complies with requirements.
- C. Recycled Content of Detectable Warning Tiles: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.
- D. Regional Materials: Detectable warning tiles shall be manufactured within 500 miles (800 km) of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles (800 km) of Project site.
- E. Source Limitations: Obtain each type of tactile warning surfacing[, joint material, setting material, anchor, and fastener from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

2.02 DETECTABLE WARNING TILES

- A. Cast-in-Place Detectable Warning Tiles: Accessible truncated-dome detectable warning tiles configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Access Products, Inc.
 - b. ACO Polymer Products, Inc.
 - c. ADA Solutions, Inc.
 - d. Advanced Surface Systems, LLC.
 - e. AlertTile; a division of Cape Fear Systems, II, LLC.
 - f. Arcis Corp.
 - g. Armorcast Products Co.
 - h. Detectable Warning Systems, Inc.
 - i. Detectile, Inc.

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- j. Engineered Plastics, Inc.; Armor-Tile.
 - k. Mingo Products, Inc.
 - l. StrongGo Industries, LLC.
 - m. Transpo Industries, Inc.
 - n. or approved equal.
 - 2. Material: Cast-fiber-reinforced polymer concrete tile
 - 3. Color: Red brick
 - 4. Shapes and Sizes:
 - a. Rectangular panel, 24 by 24 inches (610 by 610 mm), 24 by 36 inches (610 by 914 mm), 24 by 48 inches (610 by 1219 mm), 24 by 60 inches (610 by 1524 mm)
 - b. Radius panel, nominal 24 inches (610 mm) deep by outside radius per plan
 - 5. Dome Spacing and Configuration: Manufacturer's standard compliant spacing
 - 6. Mounting:
 - a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.
- B. Surface-Applied Detectable Warning Tiles: Accessible truncated-dome detectable warning concrete tiles configured for surface application on existing concrete walkway surfaces, with slip-resistant surface treatment on domes, field of tile, and beveled outside edges.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Access Products, Inc.
 - b. ADA Solutions, Inc.
 - c. AlertTile; a division of Cape Fear Systems, II, LLC.
 - d. Arcis Corp.
 - e. Armorcast Products Co.
 - f. Engineered Plastics, Inc.; Armor-Tile.
 - g. Transpo Industries, Inc.
 - h. or approved equal.
 - 2. Material: Cast-fiber-reinforced polymer concrete tile
 - 3. Color: Red brick
 - 4. Shapes and Sizes:
 - a. Rectangular panel, 24 by 24 inches (610 by 610 mm), 24 by 36 inches (610 by 914 mm), 24 by 48 inches (610 by 1219 mm), 24 by 60 inches (610 by 1524 mm)
 - b. Radius panel, nominal 24 inches (610 mm) deep by outside radius per plan
 - 5. Dome Spacing and Configuration: Manufacturer's standard compliant spacing
 - 6. Mounting: Adhered and fastened to existing concrete walkway.
- C. Cast-in-Place Detectable Warning Metal Tiles: Accessible truncated-dome detectable warning metal tiles with replaceable surface configured for setting flush in new concrete walkway surfaces, with slip-resistant surface treatment on domes and field of tile.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Advantage Tactile Systems.
 - b. East Jordan Iron Works.
 - c. Neenah Foundry.

- d. or approved equal.
 - 2. Material:
 - a. Stainless-Steel Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304
 - b. Finish and Color:
 - 1) Manufacturer's standard powder coat, red brick
 - 2) Mill finish.
 - c. Cast Iron: Gray iron, ASTM A 48/A 48M, CL 35.
 - 3. Shapes and Sizes:
 - a. Rectangular panel, 24 by 24 inches (610 by 610 mm), 24 by 36 inches (610 by 914 mm), 24 by 48 inches (610 by 1219 mm), 24 by 60 inches (610 by 1524 mm)
 - b. Radius panel, nominal 24 inches (610 mm) deep by outside radius per plan
 - 4. Dome Spacing and Configuration: Manufacturer's standard compliant spacing
 - 5. Mounting:
 - a. Permanently embedded detectable warning tile wet-set into freshly poured concrete.
- D. Surface-Applied Detectable Warning Metal Tiles: Accessible truncated-dome detectable warning metal tiles or plates configured for fastening to surface of existing concrete walkway surfaces, with slip-resistant surface treatment on domes, field of tile, and beveled outside edges.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Advantage Tactile Systems.
 - b. or approved equal.
 - 2. Material: Stainless-Steel Plate and Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304
 - 3. Finish and Color:
 - a. Manufacturer's standard powder coat, red brick
 - b. Mill finish.
 - 4. Shapes and Sizes:
 - a. Rectangular panel, 24 by 24 inches (610 by 610 mm), 24 by 36 inches (610 by 914 mm), 24 by 48 inches (610 by 1219 mm), 24 by 60 inches (610 by 1524 mm)
 - 5. Dome Spacing and Configuration: Manufacturer's standard compliant spacing
 - 6. Mounting:
 - a. Replaceable surface-applied detectable warning tile fastened with permanently installed anchors to existing concrete walkway.
 - b. Permanently fixed detectable warning tile adhered and fastened to existing concrete walkway.

2.03 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of tactile warning surfaces, noncorrosive and compatible with each material joined, and complying with the following:
 - 1. Furnish Type 304 stainless-steel fasteners for exterior use.
 - 2. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant heads, colored to match tile.

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- B. Adhesive: As recommended by manufacturer for adhering tactile warning surfacing unit to pavement.
- C. Sealant: As recommended by manufacturer for sealing perimeter of tactile warning surfacing unit.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that pavement is in suitable condition to begin installation according to manufacturer's written instructions. Verify that installation of tactile warning surfacing will comply with accessibility requirements upon completion.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION OF TACTILE WARNING SURFACING

- A. General: Prepare substrate and install tactile warning surfacing according to manufacturer's written instructions unless otherwise indicated.
- B. Place tactile warning surfacing units in dimensions and orientation indicated. Comply with location requirements of AASHTO MP 12.

3.03 INSTALLATION OF DETECTABLE WARNING TILES

- A. Cast-in-Place Detectable Warning Tiles:
 - 1. Concrete Paving Installation: Comply with installation requirements in Section 321313 "Concrete Paving." Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of tile.
 - 2. Set each detectable warning tile accurately and firmly in place and completely seat tile back and embedments in wet concrete by tamping or vibrating. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
 - 3. Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding plus or minus 1/8 inch (3 mm) from flush.
 - 4. Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
 - 5. Clean tiles using methods recommended in writing by manufacturer.
- B. Removable Cast-in-Place Detectable Warning Tiles:
 - 1. Concrete Paving Installation: Comply with installation requirements in Section 321313 "Concrete Paving." Mix, place, and finish concrete to conditions complying with detectable warning tile manufacturer's written requirements for satisfactory embedment of removable tile.
 - 2. Set each detectable warning tile accurately and firmly in place with embedding anchors and fasteners attached, and firmly seat tile back in wet concrete by tamping or vibrating. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
 - 3. Set surface of tile flush with surrounding concrete and adjacent tiles, with variations between tiles and between concrete and tiles not exceeding plus or minus 1/8 inch (3

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mm) from flush.

- 4. Protect exposed surfaces of installed tiles from contact with wet concrete. Complete finishing of concrete paving surrounding tiles. Remove concrete from tile surfaces.
- 5. Clean tiles using methods recommended in writing by manufacturer.
- C. Surface-Applied Detectable Warning Tiles:
 - 1. Lay out detectable warning tiles as indicated and mark concrete pavement.
 - 2. Prepare existing paving surface by grinding and cleaning as recommended by manufacturer.
 - a. Cut perimeter kerf in existing concrete pavement to receive metal tile flange.
 - 3. Apply adhesive to back of tiles in amounts and pattern recommended by manufacturer, and set tiles in place. Firmly seat tiles in adhesive bed, eliminating air pockets and establishing full adhesion to pavement. If necessary, temporarily apply weight to tiles to ensure full contact with concrete.
 - 4. Install anchor devices through face of tiles and into pavement using anchors located as recommended by manufacturer. Set heads of anchors flush with top surface of mat.
 - 5. Mask perimeter of tiles and adjacent concrete, and apply sealant in continuous bead around perimeter of tile installation.
 - 6. Remove masking, adhesive, excess sealant, and soil from exposed surfaces of detectable warning tiles and surrounding concrete pavement using cleaning agents recommended in writing by manufacturer.
 - 7. Protect installed tiles from traffic until adhesive has set.

3.04 INSTALLATION OF DETECTABLE WARNING MATS

- A. Lay out detectable warning mats as indicated and mark concrete pavement at edges of mats.
- B. Prepare existing paving surface by grinding and cleaning as recommended by manufacturer.
- C. Apply adhesive to back of mat in amounts and pattern recommended by manufacturer, and set mat in place. Firmly seat mat in adhesive bed, eliminating air pockets and establishing full adhesion to pavement. If necessary, temporarily apply weight to mat to ensure full contact with adhesive.
- D. Install anchor devices through face of mat and into pavement using anchors located as recommended by manufacturer. Set heads of anchors flush with mat surface.
- E. Mask mat perimeter and adjacent concrete, and apply sealant in continuous bead around perimeter of mat.
- F. Remove masking, adhesive, excess sealant, and soil from exposed surfaces of detectable warning mat and surrounding concrete pavement using cleaning agents recommended in writing by manufacturer.
- G. Protect installed mat from traffic until adhesive has set.

3.05 INSTALLATION OF DETECTABLE WARNING UNIT PAVERS

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- A. Unit Paver Installation, General:
 - 1. Setting-Bed and Unit Paver Installation: Comply with installation requirements in Section 321400 "Unit Paving."
 - 2. Mix unit pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
 - 3. Cut unit pavers with motor-driven masonry saw equipment to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible.
 - 4. Tolerances: Do not exceed 1/4 inch in 10 feet (6 mm in 3 m) from level, or indicated slope, for finished surface of paving.

- B. Aggregate Setting-Bed Applications:
 - 1. Place aggregate base, compact by tamping with plate vibrator, and screed to depth indicated.
 - 2. Place leveling course and screed to a thickness of 1 to 1-1/2 inches (25 to 38 mm), taking care that moisture content remains constant and density is loose and uniform until unit pavers are set and compacted.
 - 3. Treat leveling course with herbicide to inhibit growth of grass and weeds.
 - 4. Set unit pavers with a minimum joint width of 1/16 inch (1.5 mm) and a maximum of 1/8 inch (3 mm), being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bars. Use string lines to keep straight lines.
 - 5. Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf (16- to 22-kN) compaction force at 80 to 90 Hz.
 - 6. Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand until joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.

- C. Mortar Setting-Bed Applications:
 - 1. Saturate concrete subbase with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.
 - 2. Apply mortar-bed bond coat over surface of concrete subbase about 15 minutes before placing mortar bed. Limit area of bond coat to avoid its drying out before placing setting bed. Do not exceed 1/16-inch (1.6-mm) thickness for bond coat.
 - 3. Apply mortar bed over bond coat; spread and screed mortar bed to uniform thickness at subgrade elevations required for accurate setting of pavers to finished grades indicated.
 - 4. Mix and place only that amount of mortar bed that can be covered with pavers before initial set. Before placing pavers, cut back, bevel edge, and remove and discard setting-bed material that has reached initial set.
 - 5. Place pavers before initial set of cement occurs. Immediately before placing pavers on mortar bed, apply uniform 1/16-inch- (1.5-mm-) thick bond coat to mortar bed or to back of each paver with a flat trowel.
 - 6. Tamp or beat pavers with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each paver in a single operation before initial set of mortar; do not return to areas already set or disturb pavers for purposes of realigning finished surfaces or adjusting joints.
 - 7. Spaced Joint Widths: Provide [3/8-inch (10-mm)] [1/2-inch (13-mm)] nominal joint width with variations not exceeding plus or minus [1/16 inch (1.5 mm)] [1/8 inch (3 mm)].

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- 8. Grouted Joints: Grout paver joints complying with ANSI A108.10. Grout joints as soon as possible after initial set of setting bed.
 - a. Force grout into joints, taking care not to smear grout on adjoining surfaces.
 - b. Tool exposed joints slightly concave when thumbprint hard.
 - c. Cure grout by maintaining in a damp condition for seven days unless otherwise recommended by grout or liquid-latex manufacturer.
- 9. Remove excess grout from exposed paver surfaces; wash and scrub clean.
- 10. Protect installation from traffic until grout has set.

3.06 CLEANING AND PROTECTION

- A. Remove and replace tactile warning surfacing that is broken or damaged or does not comply with requirements in this Section. Remove in complete sections from joint to joint unless otherwise approved by Architect. Replace using tactile warning surfacing installation methods acceptable to Architect.
- B. Protect tactile warning surfacing from damage and maintain free of stains, discoloration, dirt, and other foreign material.

END OF SECTION 321726

EXHIBIT J

CONTRACT DRAWINGS

202475736: SKY BLUE BUILDERS LLC

Level 5 Domes & Ramps Adjustments

**Incorporated by Reference as found in File #20250107
at the Denver Office of the Clerk and Recorder**



Exhibit K

INVITATION FOR BID

Level 5 Domes & Ramps Adjustments

IFB No. 202475736

December 4, 2024

INVITATION FOR BID (IFB)

Airport Office Building (AOB)
Denver International Airport (DEN)
8500 Pena Boulevard, Room 8810
Denver, Colorado 80249-6340

Contract Administrator (CA): Sheila Motley
E-Mail: contract.procurement@flydenver.com

Invitation for Bid #: 202475736

BIDS MUST BE RECEIVED BY: Friday, January 3, 2025, by 2:00 p.m. Denver Local Time

Schedule of Activities

This projected schedule is an estimated timeline and is subject to change at the sole discretion of the City. All times listed in this document are understood to be Denver local time.

Event	Date
IFB Advertisement	December 4, 2024
Optional Pre-Bid Conference	December 10, 2024, at 9:00 a.m. Denver Local Time
Optional Site Walk	December 11, 2024 at 2:00 p.m. Denver Local Time
Last Date to Submit Written Questions	December 16, 2024, by 2:00 p.m. Denver Local Time
Bid Opening	January 3, 2025, by 2:00 p.m. Denver Local Time

Pre-Bid Conference – OPTIONAL

An optional Pre-Bid Conference will be held virtually via a Microsoft Teams Meeting at the date and time listed above in the Schedule of Activities. Please click on the following link to access the meeting.

[Optional Pre-Bid Conference Link](#)

At this conference, DEN representatives will explain the opportunity and answer questions regarding this IFB, including any written questions submitted to DEN prior to the conference.

Site Visit – OPTIONAL

The Optional Site Walk is scheduled for the date and time listed above in the Schedule of Activities. **Preregistration is required and must be completed no later than 12:00 p.m. on Monday, December 9, 2024**, The registration link is provided below.

[Site Walk Pre-registration Link](#)

Participants will meet on their scheduled date and time inside the DEN Terminal, Level 5, Door 501 at Denver International Airport, 8500 Pena Boulevard, Denver, CO 80249. Please arrive at least 15 minutes prior to the start of your scheduled site visit.

Should you require assistance regarding the site visit, please contact Christabel Cardenas at 303-342-2291 or Christabel.Caredenas@flydenver.com

IFB Questions

DEN will not answer telephone inquiries about this IFB. Written questions are due by the time listed above in the Schedule of Activities and shall be submitted electronically via the Rocky Mountain E-Purchasing System (BidNet) website. **DEN requires all questions to be submitted individually on this site.**

Note: BidNet limits the characters available to input for DEN to respond to each question. For this reason, multiple questions may not be submitted as a single question, as DEN is unable to respond to multiple questions in the space provided. Because of this limitation, DEN reserves the right to reject groups of questions submitted in a single question box or to select and respond to only one question posed. A multi-part question containing an initial question, and a follow-up is the exception to this rule. All questions and answers will be posted on the BidNet website as an addendum to the bid at the link below following the deadline for submittal of questions:

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

Bid Submittal

The Bid shall be prepared in accordance with the Preparation of Bid as described in Section III of this IFB. Bidders shall submit their Bid and all required forms via the BidNet website at the link below. Bids are due by the date and time listed in the Schedule of Activities above.

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

Allow ample time for the electronic submission of your Bid. Following are links to a BidNet Electronic Bid Submission (EBS) guide and EBS FAQ site. DEN strongly encourages Bidders to review this information prior to starting your submission in addition to starting the submission process at least one business day prior to the Bid due date. DEN will not extend the submission deadline due to any technical issues or outages you may experience.

EBS FAQs:

<http://faq.bidnetdirect.com/electronic-bid-submission/>

Minority and Women-Owned Business Enterprise Participation

Article III, of Chapter 28 of the Denver Revised Municipal Code (D.R.M.C.) grants authority to the Division of Small Business Opportunity (DSBO) to establish participation requirements under the Minority and Women-Owned Business Enterprise (MWBE) Program as related to expenditures and related contracts by and through the City and County of Denver. The participation requirement for this project is:

20% Minority and Women-Owned Business Enterprise (MWBE)

The requirement must be met with certified firms, §§ 28-62, 28-66, D.R.M.C., or through the demonstration of a sufficient good faith effort. §§ 28-60, 28-64, D.R.M.C. For a firm proposing as an MWBE Prime to receive self-performance credit towards the MWBE requirement, they must be MWBE-certified by the City and County of Denver at the time of bid submission. For any subcontractor, subconsultant, and/or supplier listed in their bid completed DSBO form(s), entitled "Letter of Intent" (LOI) to receive performance credit towards the MWBE requirement, they must be MWBE-certified by the City and County of Denver at the time of bid submission.

The Division of Small Business Opportunity (DSBO) has designated a Minority and Women-Owned Business Enterprise (MWBE) requirement for this project, bid requirements for which are set forth below. This procurement and resulting contract are governed by Article III, of Chapter 28 of the Denver Revised Municipal Code (D.R.M.C.) (the “DSBO Ordinance”) and accompanying rules and regulations (collectively, the “MWBE Program”). Throughout the life of the contract, the awarded contractor/consultant (the “Contractor/Consultant”) will be required to comply with the MWBE Program. Failure by the Contractor/Consultant to comply therewith during the performance of the contract is a material breach of the contract, which may result in the imposition of sanctions on the Contractor/Consultant, as deemed appropriate by DSBO.

General Statement of Work

The project consists of all management, labor, supervision, coordination, materials, equipment, tools, testing, commissioning, incidentals, permits, and inspections as required for the completion of the reconfiguration to complete this scope of work. Work to include demolition of existing crosswalks, curbs, ramps as noted in the drawings to accommodate the new layout. Installation includes raised crosswalks and vehicular ramps, passenger loading zones, along curbside sidewalks, cane detection devices for existing encroachments, new traffic and accessible wayfinding signage.

Prequalification Requirements

Each Bidder must be prequalified in category **1F Roadway and Paving** at or above the **\$6,000,000.00** monetary level in accordance with the City’s Rules and Regulations Governing Prequalification of Contractors. Each Bidder must have submitted a prequalification application a minimum of ten (10) calendar days prior to the response due date. Applications for prequalification must be submitted via [B2Gnow](https://www.denvergov.org/B2Gnow). To view the Rules and information on how to apply, please visit our website at www.denvergov.org/prequalification.

BID SUBMITTAL REQUIREMENTS

The following is a checklist for reference when compiling the Bid submission.

The documents listed below are required:

- ☐ Bid Forms - completed and signed
 - Bid Letter –completed with all addenda acknowledged
 - Bid Data Forms –complete and submit all forms
 - Disclosure of Legal & Administrative Proceedings & Financial Conditions
 - Bid Bond
- ☐ Sample Agreement:
 - List of proposed modifications or legal issues regarding terms of the Sample Agreement as outlined in Section II-2.
- ☐ DSBO Forms
 - Commitment to MWBE Participation, and, if committing to any amount less than the established goal, a good faith effort (GFE) statement and documentation addressing each of the categories outlined in the DSBO Ordinance, §§ 28-60, 28-64, D.R.M.C.
 - List of Proposed Subcontractors, Subconsultants, and/or Suppliers
 - Letter(s) of Intent
- ☐ Diversity Survey
 - Diversity and Inclusiveness in City Solicitations (online survey – include the completed survey with your Bid submission)
- ☐ Financial Forms
 - Lump Sum Bid Form

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I. CITY, AIRPORT AND PROJECT OVERVIEW

The values of equity, diversity, inclusivity, accessibility, and sustainability are inherent to the City's strategy to develop and maintain prosperous communities. Accordingly, these values are imbedded into all the City's procurement processes to ensure competitive procurements that offer equitable opportunities for all potential Bidders, including greater contracted and significant participation for historically underutilized businesses to ensure Denver's long-term economic, social, and environmental health. Through equitable procurements, the City is committed to working to remove barriers and increase access to City contracting opportunities for all historically underutilized and small businesses including those owned by veterans and individuals living with disabilities as well as those in economically distressed or redlined neighborhoods. It is a primary value to promote economic equity by engaging a more inclusive community of Bidders and contractors, both as prime and sub-contractors to address socioeconomic disparities. Through this promotion of equity and inclusion (EDI), the City strives to improve opportunities that ensure fair and just access to jobs, housing, education, mobility options, and healthier communities. It is the City's expectation that all successful Bidders demonstrate their commitment to these City values through their procurement responses and post contract and/or lease activities.

Each procurement opportunity is to be approached with ethical and honest behavior. The City will solicit, evaluate, and award contracts based upon the Bidder's alignment with the City's values as it relates to its approach, proven experience, ability to perform work, costs, and pricing. DEN is looking for Bidders that demonstrate a history of equity, diversity, integrity, stewardship, innovation, and humanity. The City is looking for Bidders that have EDI embedded in their policies, procedures, practices, initiatives, and exhibit actionable results and ensures that of those that they partner with.

The City's values may be demonstrated through but are not limited to: (a) workforce expansion; (b) utilization of and work with the historically underutilized community, separate from required certified goals; (c) environmental sustainability and (d) EDI and Equal Employment Opportunity (EEO) programs for staff.

DEN plays a unique role as a gateway to the world for the region, our passengers, our communities, and our partners. As such, DEN has a generation of operators, concessionaires, designers, builders, planners, and small businesses that are stronger and more successful because of this work. DEN has also helped build new businesses that have flourished and grown into mature industry leaders. As part of its new Vision 100 plan, DEN intends to expand this legacy by looking to the community that has succeeded in the past at DEN to bring the next generation forward.

In its review of this contract opportunity, DEN believes that the scope of work and firms in the industry lends itself to unique partnership opportunities, and therefore, highly encourages firms that have historically proposed as prime contractors to serve as subcontractors to M/WBE firms in their contract with DEN, or to create Joint Ventures with M/WBE firms. A focus of this partnership should be for the contracting partners to build a meaningful relationship that is not merely transactional to meet a numerical goal. The objective is to afford the M/WBE firm the opportunity to learn from the large contractor, grow its financial capacity, build its generational wealth and its portfolio, and increase its capability to perform new commercially useful functions on future contracts.

In accordance with procedures described herein, you are hereby invited to submit a Bid for the subject project, which is described in the Technical Specifications and Drawings incorporated herein. The work under this Contract is anticipated to start on or about March 2025 and has a scheduled duration of approximately 186 days. The Bid must be prepared and submitted in accordance with the requirements

and procedures contained in this IFB document and the City's ordinances, rules, policies, and procedures. Compliance with these requirements by the Bidder is mandatory and is a condition of responsiveness. Any failure to satisfy these requirements will be a sufficient basis for the City to disqualify the Bidder. The City shall not be liable for any of the Bidder's expenses associated with its preparation of the Bid or DEN's consideration of it. The Bidder, if selected, shall not include any such expenses as part of its fee for performing the Scope of Work.

II. ADMINISTRATIVE INFORMATION

II-1 Issuing Office

This IFB is governed by the City's ordinances and Procurement Rules in effect at the time of its issuance. DEN Contract Procurement is the sole point of contact concerning this IFB. All communication must be done through DEN Contract Procurement.

II-2 Introduction and Acceptance of IFB Terms

The Bidder, by submitting its Bid, acknowledges that it understands and will agree to the corresponding Exhibits and the Scope of Work, and that the Bidder shall be able to perform as required. Acknowledgement of this condition shall be indicated by the signature of the Bidder on the Bid Acknowledgement Letter, which is attached hereto and incorporated here in as Attachment 1, or an officer of the Bidder legally authorized to execute contractual obligations. A submission in response to this IFB acknowledges acceptance by the Bidder of all terms and conditions as set forth herein. The Bidder shall identify clearly and thoroughly any variations between its Bid and this IFB. Failure to do so shall be deemed a waiver of any rights to subsequently modify the terms of performance, except as outlined or specified in this IFB.

Bidders shall undertake a detailed review of the Attachment 5, Sample Agreement and submit with their Bid a list of all legal issues or proposed modifications which the Bidder would like DEN to review and address, should they be selected as the apparent lowest Bidder. The Bidder may submit questions regarding the Sample Agreement using the same method designated for other questions related to this IFB. Bidders are strongly advised to seek legal counsel for advice regarding the Sample Agreement. DEN will not respond to legal questions such as about the interpretation of a provision of the Sample Agreement or provide legal advice regarding the Sample Agreement to Bidders. DEN shall assume that the Sample Agreement has been thoroughly reviewed and discussed with legal counsel prior to submission of the Bid. If the Bidder does not identify any issues or proposed modifications to the Sample Agreement, the City may refuse to consider any proposed revisions received later from the Bidder, if they are selected as apparent lowest Bidder. The City may consider the Bidder's comments in considering whether to select Bidder as the apparent low Bidder.

Attachment 5 is a sample agreement and, as such is subject to revision or modification by DEN at any time. DEN reserves the right to modify any term or condition of this Sample Agreement, and to add, delete or modify terms and conditions, as DEN's interests may require, prior to execution of a final agreement. **The Sample Agreement contains certain provisions required by Federal, State, and/or City law and policy, and these provisions may not be revised or negotiated.**

II-3 Means of Communication

During the solicitation process for this IFB, all communication between DEN Contract Procurement and Bidders will be via postings on DEN's BidNet website:

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

DEN Contract Procurement will post notices, which include, but are not limited to, any modifications to administrative or performance requirements, answers to inquiries received, clarifications to requirements, addenda, and the announcement of the apparent lowest bidder. It is the responsibility of each potential Bidder to monitor the BidNet website regularly in order to be aware of changes, communications and/or addenda to Bids.

DEN will not be held responsible for misinformation received from private plan holders. Please use the BidNet website to obtain solicitation information for DEN.

II-4 Interpretation of Bid Documents

The Bidder may request, in writing, a clarification or interpretation of any aspect of the IFB documents. Such requests must be made via the BidNet website by the due date and time specified in the Schedule of Activities listed on Page 2. DEN shall post all questions and answers on the BidNet Website following the deadline for submittal of questions as an addendum to the bid. DEN will not accept or respond to oral inquiries except for those made at the Pre-Bid Conference. The only 'official' responses are those that are posted to the BidNet Website for this IFB.

II-5 Addenda

DEN reserves the right to revise the IFB documents at any time up to the time set for submission of the Bids. Any such revision(s) shall be described in an addendum to the IFB and shall be posted on the BidNet Website at the following link:

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

If DEN determines that the addendum may require significant changes to the Scope of Work, the deadline for submitting the Bids may be postponed by the number of days that DEN determines will allow Bidders sufficient time to revise their Bids. Any new submittal deadline date for delivering Bids to DEN shall be included in the addendum.

Bidders must acknowledge in their Bid that they received all addenda to the IFB documents (see Attachment 1, Part 1). Failure to acknowledge receipt of addenda may disqualify the Bidder.

II-6 DEN Website

It shall be conclusively presumed that the Bidder did, before submitting a Bid and prior to the final Bid deadline, read all addenda, posted decisions and other information items relevant to the IFB which appeared on the DEN BidNet Website. Bidder may also contact the DEN Contract Administrator, Sheila Motley by email at contract.procurement@flydenver.com to confirm all posted information.

Please visit the BidNet Website at the following link which contains such services and information as:

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

- A. Advertisements for RFx and IFB opportunities
- B. Status of RFx and IFB opportunities
- C. Addenda including vendor questions and responses
- D. Plan holder's/Document Taker's list
- E. Award information

II-7 Withdrawal of Bid

A Bidder may withdraw its Bid by submitting to DEN a written request signed by the Bidder's authorized representative. The withdrawal of a Bid does not prejudice the right of the Bidder to submit future Bids.

II-8 Rights of DEN

DEN reserves the rights to cancel or modify this IFB at any time and to reject any or all bids for any reason or for no reason. This IFB is an open and equitable Invitation for Bids, and each Bid constitutes an offer to contract that DEN may consider in its sole and absolute discretion. Any errors or omissions in a Bid may result in the rejection and disqualification of the entire Bid. Errors, omissions, and other acts that may

result in Bid rejection and disqualification include, but are not limited to, failure to strictly comply with the IFB requirements or any applicable ordinances, rules, or policies; the submission of any inaccurate or false information; any improper communications or collusion involving Bidders; default or termination for cause of any public or private contracts within the past five (5) years; delinquent arrearages owed to DEN; and failure to submit proof of licensing or franchise authority and any related exclusivity requirements.

Notwithstanding the broad rights reserved to DEN to reject and disqualify any or all Bids, DEN may waive any immaterial deficiencies in Bids and may allow Bidders to cure any such deficiencies if an opportunity to cure is determined by DEN to be in DEN's best interests. If given an opportunity to cure, Bidders will be notified of the allotted time to correct the identified deficiency; failure to correct the deficiency in the time allotted may result in Bids being deemed non-responsive and disqualified. DEN's waiver of an immaterial deficiency will in no way modify the IFB or excuse Bidders from full compliance with all IFB specifications. DEN may exercise the foregoing rights at any time without notice and without any liability whatsoever to any Bidder or other party. By responding to this IFB, each Bidder is deemed to accept and agree to all of these terms and conditions and to waive any rights to challenge DEN's determinations regarding Bid deficiencies in accordance with this section.

II-9 **Bidder Agreements**

Bidders may submit proposed agreements of any form (contracts or documents) that contain supplemental terms and conditions that the Bidder desires to be considered by the City for inclusion in the contract. Such forms may include Bidder's software licensing agreements, maintenance contracts, and technical support agreements. By accepting delivery of these items, DEN is not bound to accept them as part of an ensuing contract. DEN may negotiate such supplemental terms and conditions that do not materially conflict with the contract terms and conditions detailed in this IFB and do not materially change the nature of this solicitation or adversely affect competition. If the parties cannot agree on the terms of the contract, including any terms desired by Bidder, DEN may terminate negotiations with the Bidder and enter into a contract with another responsive Bidder. ***Certain of DEN's contract provisions are required by Federal, State and/or City law and policy and are not subject to modification.***

II-10 **Minority Business Enterprise and Women Business Enterprise Participation** **City and County of Denver's MWBE Policy Statement**

The City and County of Denver's ("City") Minority and Women-Owned Business Enterprise (MWBE) policy is to ensure nondiscrimination in the award and administration of the City's construction contracts, professional services contracts, and in the procurement of common goods and services. The awarded contractor ("Contractor") shall comply with and implement requirements of Article III, of Chapter 28 of the Denver Revised Municipal Code (D.R.M.C.) ("DSBO Ordinance") and accompanying rules and regulations (collectively, "MWBE Program") in the award and administration of Subcontracts under any agreement resulting from this solicitation ("Contract"). The Contractor shall not discriminate on the basis of race, color, religion, national origin, sex, age, or disability in the administration and performance of the Contract. The Contractor shall carry out MWBE Program requirements in the award and administration of its contracts as well as the flow down provisions of this MWBE Contract requirements to be incorporated in all MWBE subcontract agreements regardless of tier. It is the City's intention to create a level playing field on which MWBEs can compete fairly for City-funded contracts. Failure by the Contractor to comply with or implement these requirements may be a material breach of the Contract, which may result in the termination of the Contract or such other remedy as the City deems appropriate. These legal remedies may include but are not limited to: withholding monthly progress payments, assessing sanctions, liquidated damages, and/or disqualifying the Contractor from future bidding. The City's commitment to the MWBE Program is not intended to and shall not be used as a justification to discriminate against any qualified company or group of companies.

City's Equity, Diversity, & Inclusion Values

The City is committed to advancing its vision of equity, diversity, inclusion, and sustainability through growing the capacity of historically underutilized businesses, which include MWBE firms, providing significant contracting opportunities, and ensuring they benefit from said contracts.

Counting MWBE Participation

For a firm's performance to count toward meeting the MWBE requirement, they must be MWBE certified by the City on or before execution of Contractor/Consultant's agreement with the MWBE firm and must be certified in the NAICS code(s) that coincide with the scope(s) of work that they will be performing. For a firm proposing as an MWBE Prime to receive self-performance credit towards the MWBE requirement, they must be MWBE-certified by the City and County of Denver at the time of bid submission. For any subcontractor, subconsultant, and/or supplier listed in their bid completed DSBO form(s), entitled "Letter of Intent" (LOI) to receive performance credit towards the MWBE requirement, they must be MWBE-certified by the City and County of Denver at the time of bid submission. DSBO maintains a MWBE Directory ("Directory"), which is a current listing of City-certified MWBEs and may be accessed via the DSBO website at <https://www.denvergov.org/dsbo>. Bidders are encouraged to use the Directory to assist in identifying MWBEs for the work and supplies required for the project. Bidders are reminded that changes may be made to the Directory at any time.

During performance, accounting of MWBE participation will be maintained for all purchase orders, task orders, and work orders, which participation will collectively be applied to the contract's overall MWBE participation attainment.

In utilizing the participation of an MWBE supplier, the degree to which their participation counts towards satisfaction of the MWBE requirement varies. If materials or supplies are obtained from a MWBE manufacturer, one hundred percent (100%) of the cost of the materials or supplies counts toward the requirement. Sixty percent (60%) of the value of the commercially useful function performed by MWBE regular dealers counts toward satisfaction of the requirement. Only the bona fide commissions earned by manufacturer representatives or brokers for their performance of a commercially useful function counts toward meeting the requirement. Therefore, Bidder must separate bona fide brokerage commissions from the actual cost of the supplies or materials provided to determine the actual dollar amount of participation that can be counted towards meeting the requirement.

Should any designated alternate be selected by the City for inclusion in the contract ultimately awarded, the MWBE requirement percentage level submitted at time of bid opening, on the base bid, will also apply to the selected alternates and must be maintained through the remaining term of the contract on the total contract amount, including any alternate work. Therefore, bidders are urged to consider participation in preparing bids for designated alternates.

MWBE Responsiveness Requirements

Award of this project will be determined, in part, on Bidder's commitment to strengthen the small, minority, and women-owned business community. Said commitment is shown through adherence to and thoughtful completion of the below-listed DSBO bid requirements, which are all conditions of responsiveness. Failure to submit a responsive bid constitutes cause for rejection thereof.

1. Non-Competition

Bidder shall not restrict an MWBE from providing or subcontracting quotations to other Bidders. Any Bidder who does so shall cause their bid to be rejected. §§ 28-59(f), 28-63(f), D.R.M.C.

2. Joint Ventures

If Bidder is participating in a joint venture with a certified MWBE firm, bidder must submit the firm's Joint Venture Agreement to DSBO at least 10 working days prior bid. The Joint Venture must be approved by DSBO.

A Joint Venture is an association of an MWBE firm and one or more other firms to carry out a single, for-profit business enterprise, for which the parties combine their property, capital efforts, skills and knowledge, and in which the MWBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

DSBO will count a portion of the total dollar value of the joint venture contract toward the MWBE requirement equal to the distinct, clearly defined portion of the work that the MWBE performs with its own forces in a NAICS code in which the firm is MWBE certified. The joint venture agreement MUST specify the services, dollar value, reporting structure, and details of the MWBE's performance requirements associated with their percent of the joint venture ownership.

3. Commitment to MWBE Participation

Bidder shall include with their bid a completed DSBO form, entitled "Commitment to MWBE Participation," stating their committed MWBE participation percent on this project. The committed participation level will be inserted into any resulting contract and the Contractor must comply with that committed participation amount during the term of the contract.

In determining whether a bidder's committed level of participation meets the stated MWBE requirement, DSBO shall base its calculation of applicable dollar amounts and percentages on the total base bid amount. If a bid contains alternates, participation contained in any alternate will not count towards satisfaction of the requirement at time of bid opening.

4. Letter of Intent

Bidder shall include with their bid completed DSBO form(s), entitled "Letter of Intent" (LOI). The LOI evidences Bidder's understanding that they will enter into a contractual relationship with the listed MWBE firm or that Bidder's subcontractor(s) will do so. A separate LOI is required for each MWBE subcontractor at all tiers. Additionally, an MWBE Prime Bidder must submit a LOI for itself for self-performed work. The collective LOI amounts must be consistent with the total committed MWBE participation percent stated on the Commitment to MWBE Participation form.

5. List of Proposed Subcontractors

Bidder shall include with their bid a completed DSBO form, entitled "List of Proposed Subcontractors" which is a comprehensive list of all firms (MWBE and non-MWBE) with whom Bidder will contract for this project, at all tiers. Each MWBE firm's "contract value" listed on this form must be consistent with the amount listed on that firm's corresponding LOI.

6. Accurate, Complete, Consistent, and Executed

Bidder is urged to carefully review their DSBO forms before submission to ensure that the forms are accurate, complete, consistent as between one-another, and executed by the appropriate parties. Only the MWBE firms identified on the above-listed required DSBO forms and MWBE certified in relevant NAICS codes at the time of bid opening, and the precise levels of participation listed for each,

will be considered in determining whether Bidder has committed to meet the designated MWBE requirement. Additional MWBE participation submitted after bid opening will not be considered in determining responsiveness.

7. Good Faith Effort

If Bidder cannot meet the MWBE requirement established by DSBO or is able to only meet part of the requirement, they shall furnish to DSBO, with their bid, a comprehensive statement of their good faith efforts to meet the requirement, along with supporting documentation demonstrative thereof. This means that Bidder must show that they took all necessary and reasonable steps to achieve the MWBE requirement which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient MWBE participation, even if they were not fully successful.

The statement of good faith efforts should address each of the categories outlined in the DSBO Ordinance, §§ 28-60, 28-64, D.R.M.C., and any additional criteria established by rule or regulation. As part of their good faith efforts, Bidders are encouraged to solicit the support and assistance of DSBO by contacting the procuring agency's Contract Administrator (CA)/Buyer with specific questions; the CA/Buyer will coordinate with DSBO to reply thereto. All good faith efforts information must be complete, accurate, adequately documented, and submitted with the bid. Good faith efforts must be demonstrated to be substantive and not merely for formalistic compliance with the DSBO Ordinance.

To award a contract to a bidder that has failed to meet the MWBE requirement, DSBO will determine whether Bidder made good faith efforts to actively, effectively, and aggressively seek MWBEs to meet the MWBE requirement prior to bid submission. Failure of Bidder to show good faith efforts shall render their bid ineligible for further consideration with the City.

8. Authority

The DSBO Ordinance and rules and regulations promulgated pursuant thereto apply to this project and are incorporated into these solicitation documents by reference. Compliance with those, and any additional requirement contained herein, are conditions of responsiveness. The DSBO Ordinance, its accompanying rules and regulations, and additional MWBE guidance are available here: <https://www.denvergov.org/dsbo>. Bidder is encouraged to contact the procuring agency/Buyer with specific questions related to compliance therewith, who will coordinate with DSBO to reply to Bidder's questions.

II-11 Certification of Independent Price and Work Determination

By submission of this Bid, each Bidder, and in the case of a joint Bid, each party thereto, certifies, that, in connection with this IFB:

1. Prices and specific work processes in this Bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor, or with any party contracted by DEN to design and/or manage all or part of the program or work of which this IFB is a part;
2. Unless otherwise required by law, the prices quoted and specific work processes described in this Bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to opening, directly or indirectly to any other Bidder or to any competitor or to any party contracted by DEN to design and/or manage all or part of the program or work of which this IFB is a part; and
3. No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.

Further, each person signing Attachment 1, Part 1 Bid Letter, for this Bid certifies that:

4. They are the person in the Bidder's organization responsible for the decision as to the prices being offered herein and that they have not participated, and will not participate, in any action contrary to subsection (a) through (c) above; or
5. They are not the person in the Bidder's organization responsible for the decision as to the prices being offered herein but that they have been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to subsections A through C above, and as their agent does hereby so certify; and they have not participated, and will not participate, in any action contrary to subsections A through C above.

A Bid will not be considered for award where subsections A, C, D or E, above, have been deleted or modified. Where B above has been deleted or modified, the Bid will not be considered for award unless the Bidder furnishes with the Bid a signed statement which sets forth in detail the circumstances of the disclosure and the Chief Executive Officer (CEO), or its designee, determines that such disclosure was not made for the purpose of restricting competition.

II-12 Designation of Subcontractors

The Bidder shall describe the qualifications of each subcontractor which it intends to use and the percentage and scope of the work which will be assigned to each of them. Resumes for the subcontractor's key personnel must be included.

Bidders who submit a Bid in response to this IFB are precluded from participation as a subcontractor with any other Bidders who submit a Bid for this IFB. However, subcontractors may be named on more than one (1) Bid. Subcontractors who are named in more than one Bid are prohibited from sharing information about one Bidder with another Bidder or utilizing such information to assist in the preparation of another Bid.

II-13 Payment

Appropriate clarifications and additions to the Scope of Work may be made during negotiations with the successful Bidder. It is the intent of DEN to enter into a Contract in which the Bidder will be paid pursuant to the terms of the Contract.

II-14 Disclosure of Legal and Administrative Proceedings and Financial Condition

1. The Bidder shall submit (at time of submittal) a statement which shall disclose all legal or administrative proceedings that involve a civil claim in excess of Fifty Thousand Dollars (\$50,000) in which the Bidder, its principals or key personnel were a party in the last five (5) years. The Bidder shall include in the statement:
 - a. The caption of the action naming all parties;
 - b. The case number, jurisdiction, and the date the action was filed;
 - c. A brief description of the action, the amount of the claim and whether the action involved performance under any public or private construction contract; and
 - d. The outcome or disposition of the action.

2. The Bidder shall submit (at time of submittal) a statement which shall disclose whether Bidder has filed for protection under the laws of the U. S. Bankruptcy Code within the last ten (10) years.
3. The Bidder shall submit (at time of submittal) a statement as to whether the Bidder, its principals, or key employees presently, or in the past, are or have been involved in any debarment or suspension proceedings. Please include a description of any proceedings which prohibited or limited the Bidder from bidding or entering into any contract with any federal, state, or local government entity. Include a brief description of the reason(s) for such action having been taken, the effective dates thereof and the governmental agency.
 - a. If the Bidder is a partnership or joint venture, please include a statement disclosing the information listed in subparagraph A and B, above, for each partner or joint venturer. If the Bidder is fifty percent (50%) or greater owned by another entity or individual, please include a statement disclosing the above information for such entity or individual.
4. The Bidder shall submit (at time of submittal) a statement as to whether the Bidder, its principals or key employees have been convicted of any crime related embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, receiving stolen property, fraud, unfair trade practices, violation of state or federal antitrust statutes, or other law indicating a lack of business integrity or business honesty or have been convicted of any other felony in any jurisdiction within the last five (5) years. Include the current status of any such principal or key employees.
5. The Bidder shall submit (at time of submittal) its Dun & Bradstreet identification number if applicable. If the Bidder is a partnership or joint venture, it must submit the Dun & Bradstreet identification number for each partner of a joint venture.
6. If the Bidder is a publicly held company, it shall submit (at the time of submittal) a list of any holders of ten percent (10%) or more of its stock.
7. During contract negotiations or at any time during the term of the executed contract, the Bidder may be asked to submit the following:
 - a. An audited statement of overhead rates, payroll taxes and operating (profit) margin used to calculate hourly billing rates for DEN's approval. If the Bidder does not have audited overhead rates, a Core Staff Labor Rates Sheet, may be requested for each entity without audited overhead rates. This statement shall cover the Bidder's most recently completed fiscal year and shall be signed by a certified public accountant as a Certified Audited Statement in which the accountant expresses their opinion as to the fairness with which the statement represents the Bidder's financial position, results of operations and changes in financial position.
 - b. If the Bidder is a partnership or joint venture, a Certified Audited Statement is required for each partner or joint venture. If the Bidder does not have audited overhead rates, a Core Staff Labor Rates Sheet, may be requested for each entity without audit overhead rates. If any individual owns thirty-two percent (32%) or more of the Bidder, a Certified Audited Statement is required for each such individual or if a Certified Audited Statement is not available, then the individual must supply copies of their federal tax returns for the prior two (2) years.

- c. If a Bidder is a small business as defined by the United States Small Business Administration, the Bidder may elect to submit copies of its Federal tax return for the prior two (2) years and prepare a Core Staff Labor Rates Sheet, in lieu of a Certified Audited Statement.
- d. A signed statement certifying that no material or significant changes have occurred since the date of completion of the Certified Audited Statement, or the filing of the Federal tax return and the date of the Bid.

II-15 **Insurance Requirements**

Bidder shall adhere to all insurance requirements stated in Attachment 3, which are attached hereto and incorporated herein by reference. ACORD FORM (or equivalent) must be emailed in pdf format to: DENCOI@flydenver.com.

II-16 **Governmental Immunity**

Bidders and subcontractors understand and agree that the City, its officers, officials and employees are relying on, and do not waive or intend to waive by any provisions, the monetary limitations or any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, §§ 24-10-101 - 120, C.R.S., or otherwise available to the City, its officers, officials and employees.

II-17 **Security**

After receiving an executed contract, the Bidder shall be deemed a Contractor of DEN. The Contractor (or subcontractor) requiring access to the Controlled Area, Sterile Area or Secured Area shall become a "Participant" in the Airport Security Program (ASP) and remain in good standing in order to retain Airport Security privileges.

Participant guidelines are outlined in DEN Rules and Regulations Part 20. A Contractor must be sponsored by an Air Carrier, Tenant or by the City. Once a Contractor company has been sponsored, they must designate an Authorized Signatory.

The sponsorship establishes that a Contractor (or subcontractor) has legitimate business at the Airport. All construction Contractors must submit a Participant Sponsorship form signed by their sponsor. A company sponsoring a Participant shall immediately notify Airport Security when any sponsorship is terminated.

A subcontractor company working under its own entity must be sponsored by a Contractor company. The subcontracting company must designate its own Authorized Signatory(ies).

Each Participant shall designate an Authorized Signatory to ensure the Participant's compliance with the ASP and act as the point of contact between the Participant and Airport Security. The Authorized Signatory shall be designated in writing to Airport Security by the Participant.

The Authorized Signatory is responsible for signing and verifying all information on the Denver International Airport Fingerprinting and Badging applications. All submitted applications must be an original. It is the Authorized Signatory's responsibility to ensure that Airport Security maintains valid contact information. The Authorized Signatory must maintain a current and valid Airport Identification Badge (ID Badge).

The security status of the Airport is subject to change without notice. Should the security status of the Airport change at any time during the term of the Contract, a written notice shall be issued to the

Contractor, detailing all applicable security modifications. The Contractor must take immediate steps to comply with those security modifications.

The Contractor shall return to DEN, upon Contract completion or termination, or upon demand by DEN, all access keys and Airport ID Badges issued to it by DEN to Controlled Areas, Sterile Areas, or Secured Areas of the Airport. If the Contractor fails to return any such Airport ID Badge(s) or Airport Security Key(s) at Contract completion or termination or upon demand by the DEN, the Contractor shall be liable to the DEN for all DEN's costs, including the DEN's labor costs for re-coring doors and any other work which is required to prevent compromise of any Airport Security system. In order to collect such costs hereunder, the DEN may withhold funds in such amount from any amounts due and payable to the Contractor under the Contract.

Airport Security must be immediately notified if an Airport ID badge or security key is lost or stolen and must be notified immediately upon the termination of an individual's employment. Pursuant to Title 49 Code of Federal Regulations (C.F.R.) Part 1520.04-10(d) a fee shall be assessed against any employer who fails to return an Airport ID badge or security keys upon the termination of an individual's employment, transfer, or completion of a project or contract. An additional fee may be requested to cover the administrative cost of processing a lost badge or security key.

II-18 Airport Identification (ID) Badge Requirements

All individuals employed at the Airport with Secured Area access, or working in the Terminal, Concourses or Parking and Ground Transportation facilities, must obtain an Airport ID Badge. Airport ID Badges will be issued by Airport Security. All Airport ID Badges shall be and remain the property of the Airport. The Airport ID Badge must be surrendered on demand to Airport Operations and/or a Contract Security Guard. An individual employed by more than one (1) company, or changing employers, must obtain an Airport ID Badge for each company. Badge color indicates general areas and levels of authorization in relationship with direct support of an individual's job function. Badge color does not determine access. The respective classes of Airport ID Badges, indicated by badge color and associated driving endorsement icon, describe driving privileges in direct correlation with job function.

The individual must complete an online application with their Company's Authorized Signatory and submit electronically one day prior to visiting the badging office. Two (2) valid forms of identification must be presented with the application, one of which must be a government-issued photo identification. The second form of identification must verify proof of citizenship (i.e., birth certificate or legal residency with work authorization). All information regarding the individual's name, age, gender, and other vital statistics on both forms of identification must be consistent and verifiable.

A DEN Fingerprinting and Badge Application, Security Threat Assessment (STA) and Criminal History Record Check (CHRC) must be completed online by the Company Signatory and submitted electronically for everyone requesting an Airport ID Badge. Allow adequate time for processing of the STA and CHRC.

The individual must view a training film on DEN Rules and Regulations as they pertain to overall security and pass a corresponding test to assure understanding of the DEN Rules and Regulations.

If the individual requests driver authorization, a valid driver's license must be presented, and the individual must view a training film on DEN Rules and Regulations as they pertain to overall Movement of Vehicles in the Secured Area and pass a corresponding test to assure understanding of the Rules and Regulations.

A construction orientation specific to the project must be conducted. A designated time for this session must be coordinated with Planning and Development and Airport Operations.

A lost or stolen Airport ID Badge must be immediately reported to Airport Security. For a replacement Airport ID Badge, a new DEN Fingerprinting and Badge Application must be completed online by the Company Authorized Signatory. A non-refundable fee must be paid for a replacement Airport ID Badge.

If for any reason the Airport ID Badge becomes inoperable or damaged, the Airport ID Badge holder shall return that badge to Airport Security, and a replacement badge will be issued. A replacement fee may be assessed should the damage be attributable to the negligence of the employee who was issued the badge.

When an employee is terminated, the Contractor company shall immediately notify Airport Security. This notification must be followed by the return of the Airport ID Badge and written confirmation of this information. The Contractor company must recover Airport ID Badges from individuals whose employment at the Airport has been terminated. The Contractor company shall notify Airport Security in writing when a subcontractor is no longer under the Contractor company's sponsorship. All Airport ID Badges must be returned to Airport Security.

An employee possessing a valid Airport ID Badge may escort other individuals into the Secured Area(s) under the conditions listed in the Rules and Regulations Part 20. If the project is extended, DEN's Project Manager must submit a new Sponsorship Form with a new expiration date. This can be accomplished thirty (30) calendar days prior to expiration of the Airport ID Badge. An application revision must be completed for each employee still required on the project if the badges have expired.

II-19 Background Checks

Every individual requesting an Airport ID Badge must complete a CHRC and an STA for unescorted access to the Sterile and Secured Area(s).

If an applicant has been convicted of a crime or found guilty by reason of insanity or has been arrested for any of the disqualifying crimes or is awaiting judicial proceedings, they may be ineligible to obtain an Airport ID Badge. A list of the disqualifying crimes may be found in 49 C.F.R. 1542.209.

II-20 Vehicles in the Secured Area

All Contractor employees who are required to drive in the Sterile and Secured Area(s) unescorted to perform their jobs are required to complete a training film on DEN System Rules and Regulations as they pertain to overall movement of vehicles in the Sterile and Secured Area(s) and pass a corresponding test to assure understanding of the Rules and Regulations.

All unescorted vehicles must display a current Airport Contractor Vehicle Permit (Permit). Permits are available from Airport Security. An application form must be completed, signed by an Authorized Signatory, and all applicable permit fees must be paid for each Permit requested, and it must be signed by the Authorized Signatory. A Permit is required for each state licensed vehicle, and the vehicle Permit is not transferable.

The Contractor shall purchase and maintain in force a minimum of Ten Million Dollars (\$10,000,000.00) in combined, single-limit automobile insurance for bodily injury and property damage liability per accident or occurrence.

II-21 Violations

Any Contractor employer not regulated under 49 C.F.R. Part 1544, Aircraft Operator, will be responsible for payment or reimbursement to DEN of any Civil Penalties imposed by the Transportation Security Administration (TSA) for individual security violations by their employees and/or subcontractor employees for violations under 49 C.F.R. Part 1542.

A Contractor employee may be personally subject to Civil Penalties imposed by TSA for individual security violations committed by Contractor employees and/or subcontractor employees under 49 C.F.R Part 1542.

Everyone who is issued an Airport ID Badge shall comply with all Security Advisories, Rules and Regulations Governing the Denver Municipal Airport System Rules and Regulations, the CEO Directives and the DEN Standard Policies and Procedures regarding Airport Safety, Security and Operations. The failure of any individual to comply with such Security Advisories, rules, and directives, etc. will result in the issuance of a Violation Notice and may result in the assessment of a Federal Civil Penalty and/or the denial, suspension, or revocation of their Airport ID Badges.

The security status of DEN is subject to change without prior notice. Should the security status of DEN change at any time during the term of the Contract, a written notice shall be issued to the Contractor, detailing all applicable security modifications. The Contractor must take immediate steps to comply with those security modifications.

II-22 Diversity and Inclusivity in City Solicitations

Each Bidder shall, as a condition of responsiveness to this IFB, complete and return the “Diversity and Inclusiveness in City Solicitations Information Request Form” with their Bid.

Using the “Diversity and Inclusiveness in City Solicitations Information Request Form,” please state whether your firm has a diversity and inclusiveness program for employment and retention, procurement and supply chain activities, or customer service, and provide the additional information requested on the form. The information provided on the “Diversity and Inclusiveness in City Solicitations Information Request Form” will provide an opportunity for DEN contractors to describe their own diversity and inclusiveness practices. Bidders are not expected to conduct intrusive examinations of its employees, managers, subcontractors, or business partners in order to describe diversity and inclusiveness measures. Rather, DEN simply seeks a description of the Bidder’s current practices, if any.

Diversity and Inclusiveness information provided by Bidders in response to DEN solicitations for services or goods will be collated, analyzed, and made available in reports consistent with the Mayor’s Executive Order No. 101. However, no personally identifiable information provided by or obtained from Bidders will be included in such reports.

For DEN to consider a Bid, Bidders must complete the electronic version of the Diversity and Inclusiveness in City Solicitations Form – then **save an electronic copy of the completed form and include the electronic copy as part of its Bid. A Bid or response to a solicitation by a Bidder that does not include this completed form shall be deemed non-responsive.** The form is found at:

<https://us.openforms.com/Form/57f3a8ea-39b7-4115-be17-1770f38d3cf6>

The Diversity and Inclusiveness Form is separate from the requirements established by DSBO and must always be completed – regardless of whether there are any DSBO goals assigned to this project.

II-23 Wage Ordinances

The services being requested in this IFB may involve services that are covered pursuant to Article IV of Chapter 20 of the D.R.M.C., which is designed to address the issue of wage equity and cost of living affordability in the City and County of Denver. Bidder agrees that any contract with DEN shall include a requirement that Bidder will comply with the provisions of D.R.M.C. relating to minimum and prevailing wages, including, but not limited to, paying all covered workers no less than the City Minimum Wage for all covered services rendered in connection with the resulting contract. Additionally, Bidder agrees that the contract shall require compliance with all current and future federal and state laws and City ordinances.

II-24 Taxes

1. General: Bidders shall refer to the City and County of Denver Department of Aviation Standard Specifications for Construction General Contract Conditions 2011 Edition (General Conditions), G.C. 323 regarding taxes to which Bidder may be subject in performing the Work under this Contract, including but not limited to, sales and use taxes and the Denver Occupational Privilege Tax. The following instructions are to be considered along with the General Conditions – and not in lieu of them.
2. Sales and Use Tax: Construction and building materials sold to contractors and subcontractors for use on structures, roads, streets, highways, and other public works owned by the City at DEN are exempt from state, Regional Transportation District (RTD) and Cultural Facilities District sales and use taxes. However, such materials will be subject to sales and use taxes imposed by the City.
3. Exemption Certificates – Sales and Use Tax: Contractor and Contractor's subcontractors are responsible for applying to apply to the Colorado Department of Revenue (CDOR) for a certificate or certificates of exemption, indicating that their purchase of construction or building materials is for a public project, and to deliver to the City copies of such applications as soon as possible after approval by the CDOR. Bidders shall not include in their Bid amounts the State, RTD and Cultural Facilities District Sales and Use Taxes.
4. Denver Occupational Privilege Tax: Any employee working for a Contractor or a subcontractor who earns over Five Hundred Dollars (\$500.00) working in Denver during a calendar month is subject to the payment of the Employee Occupational Privilege Tax. The Contractor and any subcontractor must pay the Business Occupational Privilege Tax for each of its employees who are subject to such tax.

II-25 Conformed Technical Specifications and Contract Documents

If applicable, and when Technical Specifications are included and/or referenced herein, Bidder understands that the Technical Specifications and Contract Drawings included in this IFB have been conformed by the City. The conformed Technical Specifications and Contract Drawings were prepared by posting or otherwise incorporating the changes noted in any addendum/addenda into the Technical Specifications and Contract Drawings to form a single set of construction documents.

II-26 Materials and Substitutions

It is often convenient and practical to specify materials and equipment to be incorporated into the Work by a proprietary name or by the name of its manufacturer. When so specified and further qualified by the phrases "or equal" or "or equivalent," it shall be understood that such specification is not intended to limit the material and equipment selection process. Rather, the specification is intended to indicate a

standard of quality and capability which will be accepted. However, all Bidders desiring to use materials other than the specified materials must obtain the written approval of the Project Manager.

Bidders requesting substitutions will submit a Request for 'or Equal' Approval Form contained herein. All requests for approval of equal or equivalent material shall contain adequate technical data to clearly demonstrate equivalency. Requests containing inadequate or incomplete information will not be reviewed.

Any such Request for 'or Equal' Approval Form must be submitted via email to contract.procurement@flydenver.com, must include in the email Subject line: "Request for Substitution" and the IFB name, and the email must be received no later than ten (10) calendar days before the posted deadline for IFB submittals. All approvals of equal or equivalent materials will be posted to the Contract Procurement website as addendum(s) to ensure full and complete disclosure to all potential Bidders. All requests for approval of equal or equivalent material shall contain adequate technical data in order to clearly demonstrate equivalency. Incomplete submittals will not be reviewed.

If the Bidder is awarded the Contract and elects to use an 'or equal' that has been added by addendum(s), the Bidder shall be deemed to have warranted that:

1. The use of the 'or equal' fulfills the specification requirements contained in this IFB.
2. The installation of the 'or equal' will not impact the spatial requirements for the Work or the scheduling of work performed by the City or other contractors.

Additionally, the Bidder agrees that it shall modify any building system(s) (i.e., HVAC, structural, electrical) impacted by the use of an 'or equal' at no cost to the City or any other contractors under contract with the City and shall make no claims for delay or disruption arising out of such 'or equal' modification.

II-27 Permit Fees

For the construction of this project, the awarded Contractor agrees to pay the permit fees described in General Condition 317 and in the Special Conditions and Technical Specifications.

II-28 Construction Scheduling

The Bidder shall refer to the General Conditions, Special Conditions and Division 013210 of the Technical Specifications for scheduling requirements for this Contract.

II-29 Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

The Bidder certifies, by submission of its Bid or acceptance of this Contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible or involuntarily excluded from participation in any government contract by any Federal, State, or local government department or agency. It further agrees by submitting its Bid that it will include this clause without modification in all lower-tier transactions, solicitations, Bids, contracts, and subcontracts. Where the Bidder or any lower-tier participant is unable to certify to this statement, it shall attach an explanation to its Bid.

II-30 Bond Requirements

As specified in II-32 and II-33, Bidder is required to provide a Bid Guarantee or Bond, and, if the Contractor is awarded the contract, Payment and Performance Bonds. The City will accept these bonds electronically, including electronic and verifiable signatures and seal from the surety and contractor, or as paper copies

with wet signatures. The surety must be authorized to do business in Colorado as a surety and must be on the list of approved sureties of the United States Department of Treasury, Bureau of Fiscal Service.

II-31 Bid Guarantee, Bond

As a guarantee of good faith on the part of the Bidder, each IFB must be accompanied by a Bid guarantee consisting of either a certified or cashier's check made payable without condition to the order of the City and County of Denver, or a Bid bond written by an approved corporation surety in favor of the City and County of Denver. If the Bidder's IFB submission is responsive and Bidder is awarded a Contract but fails to either (1) execute a Contract in the form prescribed, (2) furnish the Payment & Performance Bonds described in Title 15 of the General Conditions, (3) furnish the required evidence of insurance described in Title 16 of the General Conditions or in the Special Conditions, or (4) satisfy any other condition precedent to Contract execution within its power within five (5) working days after such notice is made by the City, said Bid guarantee shall be forfeited to the City as liquidated damages and not as a penalty. The Bid guarantee shall be in the amount of five percent (5%) of the Maximum Contract Amount.

A Bid Guarantee form for execution by the Bidder is supplied with each set of contract documents. IF A BID GUARANTEE IS USED, IT MUST BE THE FORM OF BID GUARANTEE SUPPLIED WITH THE CONTRACT DOCUMENTS.

Once the awarded Bidder executes a Contract and delivers to the City satisfactory Performance & Payment Bonds and the required insurance documentation and, if applicable, City Council approval of the Contract, the Bid guarantees of non-awarded Bidders will be returned.

II-32 Payment & Performance Bonds

The awarded Contractor will be required to submit Payment and Performance Bonds which guarantees it will fulfill its contractual obligations under this project and guarantees it will pay its subcontractors, material suppliers and/or laborers for any work and materials provided. The amount of the Bonds will be 100% of the Maximum Contract Amount (the full amount of the Bid). Should the awarded Contractor default on its obligations and fails to complete the project, a claims process may be initiated. If Contractor is found to be in breach of the Contract, it must compensate the City up to the full amount of the Bonds. DEN will accept Payment and Performance Bonds electronically, with electronic signatures that conform to City requirements, or as paper copies with wet signatures.

II-33 Project Controls Requirements

Bidder will be required to use the designated Project Management Information System (PMIS) as set forth in the Technical Specifications. The PMIS is Design, Engineering & Construction's (DEC's) tool for project and information management, data analysis and document control. DEN will be responsible for providing the licensing and training for PMIS.

II-34 Equal Employment Opportunity

1. D.R.M.C. Article III, Division 2 of Chapter 28 applies to this project. It is the policy of the City to provide equal opportunity in employment without regard to race, color, creed, sex, national origin, religion, marital status, or political opinion or affiliation. It is hereby deemed and declared to be for the public welfare and in the best interest of the City to require Bidders, contractors and subcontractors soliciting and receiving, directly or indirectly, compensation from or through the City, for the performance of such contracts, to meet certain affirmative action and equal employment opportunity requirements. Additionally, contractors and subcontractors that hold any contracts which are federally assisted shall be required to adhere to the Department of Labor's Contract Compliance

program under Executive Order No. 11246 as defined in the regulations of the Secretary of Labor at 41 C.F.R. Chapter 60-4.

2. After the Notice to Apparent Lowest Bidder has been issued, the Apparent Low Bidder shall submit the following to DSBO:
 - a. A statement that the Bidder shall implement the affirmative action steps set forth in the Rules and Regulations and Bid Conditions of the Manager of Public Works pertaining to Equal Employment Opportunity, attached hereto, or the Bidder's affirmative action plan which meets these requirements, and
 - b. A projection of its anticipated workforce for this contract on the attached "EEO Questionnaire." Both of these submittals are required before DSBO will approve the Notice to Proceed.
3. The Bidder who is awarded this contract shall comply with the provisions and requirements, including the goals of minority and female participation and specific affirmative action steps, set forth in the Rules and Regulations and Bid Conditions of the Manager of Public Works pertaining to Equal Employment Opportunity, as said rules and regulations may be amended or readopted from time to time by the Manager of Public Works or the Director of the Division of Small Business Opportunity.

II-35 **Conflicts of Interest**

An organizational conflict of interest occurs when, because of the relationship between two organizations or one organization (including its subsidiaries or related organizations) performing or proposing for multiple scopes of work, there is or could be in the future a lack of impartiality, impaired objectivity, an unfair advantage over one or more firms competing for the work, or a financial or other interest in other scopes of work.

If the Bidder currently has existing contracts with the City for work at DEN, including any contracts held by Bidder's parent, affiliates, or subsidiary corporations, this could pose a conflict of interest and could place your Bid in jeopardy of being rejected for conflict of interest. If the Bidder believes a conflict of interest may exist but can be mitigated, please describe the steps it proposes that it will take to mitigate the conflict.

If the City identifies a conflict of interest that is not identified by the Bidder in its response, the City may find the Bidder to be non-responsive. If the City identifies a conflict during the course of the Contract and the Bidder failed to disclose such conflict, the City may terminate the contract for cause or convenience at the discretion of the City.

II-36 **Title VI Solicitation Notice**

The City, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders or offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit Bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

II-37 **Confidentiality of Records**

Documents submitted pursuant to this IFB will be subject to the Colorado Open Records Act, C.R.S. §§ 24-72-201, et seq. Information clearly marked as confidential and proprietary will be kept confidential by

City, unless otherwise provided by law. City will attempt to notify the Bidder if a request is made for pages of documents clearly marked as confidential and proprietary so that the Bidder may take any action it deems necessary to defend the request. The Bidder, not the City, shall be the entity responsible for defending against Colorado Open Records Act disclosures for any records claimed by the Bidder to be confidential and proprietary.

III. PREPARATION OF BID**III-1 Preparation of Bid**

The Bid shall be submitted in accordance with and meet all requirements set forth in the Bid Forms, which are attached hereto. The Bidder shall fill in all blank spaces in the applicable Bid Forms and initial all interlineations, alterations, or erasures in its Bid. The Bidder shall not delete, modify, or supplement the printed matter on the forms which are included in "Attachment 1, Bid Forms" or make substitutions thereon. The Bidder's completed Bid Forms shall constitute its Bid. It shall be conclusively presumed that the Bidder did, before submitting a Bid, read all addenda, posted decisions and other information items relevant to the IFB that appeared on the BidNet Website.

An authorized representative of the Bidder shall execute Attachment 1 of its Bid Forms – the "Bid Letter."

1. If the Bidder is a corporation, it shall upon execution of the Contract provide a certificate from the Secretary of State, showing that it is qualified to do business in the State of Colorado. Please call the Secretary of State for Colorado at (303) 894-2200 for information on obtaining such certification.
2. If the Bidder is a partnership, the Bidder must include with its Bid evidence satisfactory to DEN that the partner signing the Bid has the authority to do so.
3. If the Bidder is a joint venture, the Bidder shall submit with its Bid a notarized copy of the joint venture agreement. That agreement must describe the scope and amount of work each participant will perform and contain a provision that each participant will be jointly and severally liable to DEN for completing all the work and to third parties for all duties, obligations and liabilities which arise out of the joint venture's performance of the work.

III-2 Completing and Signing Bid Forms

Each Bidder shall submit the following, completed, and executed in accordance with the Contract Documents:

1. Bid Forms, including additional forms as required by addendum;
2. Bid Bond or Bid Guarantee in conformance with II-31; and
3. Completed Diversity and Inclusivity in City Solicitations Survey

The Bidder must complete the Bid Forms by legibly writing or printing in ink, words, figures, or both as required the Bidder's offered prices for performing the work. All blank spaces which require a response of the bidder must be properly completed. In filling out the Bid Forms, the Bidder shall avoid making changes to the extent possible, but, if changes are necessary, any interlineation, white outs, or erasures shall be initialed.

For contracts containing unit prices, the Bidder shall specify in the Bid Forms a unit price for each item for which a quantity is given and shall write in figures the products of the respective unit prices and quantities in the "Amount" column provided for that purpose.

Each bidder must sign the Bid Forms and give the Bidder's current business address and contact information as noted. If an individual, the signature must be of the individual offering the Bid; if a partnership, the signature must be that of a general partner; and if a joint venture, by each joint venture participant in their individual capacity as a corporation, partnership, or individual; if a corporation, both the president or a vice president and the secretary must sign and the seal of the corporation must be

affixed. Signatures of other persons may be acceptable if the Bid contains evidence satisfactory to the CEO to prove that the other persons are authorized to bind the Bidder.

Bidder shall submit its Bid Data Information in accordance with the format shown on each of the Bid Data Forms. Bidder shall prepare and use as many sheets as are necessary to provide the information required. Bidder shall ensure that each page of its Bid Data is completed and properly identified with the Bid Data form name, Bidder's name, and page number.

IV. EVALUATION OF BIDS**IV-1 BASIS FOR SELECTING THE APPARENT LOW BIDDER**

The selection of the Apparent Low Bidder will be made on the basis of the lowest responsive Bid by a qualified Bidder whose Bid complies with all of the requirements prescribed herein. The lowest Bidder shall be determined by the Total Base Bid Amount. This selection shall be subject to the approval of such resulting contract in accordance with the Charter and ordinances of the City and County of Denver.

If add alternates are listed in the Bid Documents, the Apparent Low Bidder will be chosen based solely on the lowest responsive Total Base Bid Amount.

IV-2 SUBMITTAL OF BIDS

There will be no live bid opening for this project or acceptance of bids in person or by mail. Bids shall be submitted electronically via the BidNet website at:

<https://www.bidnetdirect.com/colorado/cityandcountyofdenverdepartmentofaviation>

DEN will accept bid bonds electronically, with electronic and verifiable signatures and seal from the surety and contractor, or as paper copies with wet signatures. The surety must be authorized to do business in Colorado as a surety and must be on the list of approved sureties of the United States Department of the Treasury, Bureau of the Fiscal Service. Paper copies of bond may be submitted to the following address:

Airport Office Building
ATTN: Sheila Motley, Contract.Procurement@flydenver.com
Denver International Airport
8500 Peña Blvd., Room 8810
Denver, CO 80249-6340
Please note IFB name and number on the outside of the envelope.

IV-3 UNACCEPTABLE BIDS

The City will not accept Bids from Bidders in arrears to the City upon debt or contract, or which are defaulters (as surety or otherwise) upon any obligation to the City, or that are deemed irresponsible or unreliable by the CEO. A history or pattern of litigation against the City by any Bidder, proposed subcontractor, interested party, or any person, firm, or corporation affiliated with any Bidder, among other items, will be considered by the CEO in determining the responsibility and reliability of Bidders. Bidders may be required to submit satisfactory evidence that they have a practical knowledge of the particular work bid upon and that they have the necessary financial resources to complete the proposed work.

IV-4 ONLY ONE BID ACCEPTED

The City will accept only one Bid for the same work from any one Bidder. This includes Bids that may be submitted under different names by one firm or corporation. Evidence of collusion among Bidders shall be grounds for exclusion of any Bidder who is a participant in any such collusion.

IV-5 CONSIDERATION OF BIDS

After the Bids are opened and read and any discrepancies have been reviewed, Bids will be compared based on the Total Contract Bid Amount written on Attachment 1, Page 1 of the Bid Letter.

If a discrepancy exists between a price or amount written in words and the price or amount written in figures, the price or amount written in words shall govern, except that in the case where a price or amount shown in figures has been crossed out and replaced with a new, legible, initialed figure, the initialed figure shall govern.

Any Bid discrepancies which the City corrects in accordance with the general rules described above shall be corrected with the understanding that the Apparent Low Bidder waives any claims against the City because of the Bidder's mistakes in its Bid.

The City reserves the right to waive informalities, to reject any and all Bids, and to advertise for new Bids where it is in the best interest of the City. The City also reserves the right to negotiate terms of the Contract.

IV-6 **INFORMAL AND UNBALANCED BIDS**

Bids shall be considered informal and may be rejected for the following reasons:

1. If the Bid is on a form other than the Bid Forms furnished by the City, or if the form is altered or any part thereof is detached.
2. If there are unauthorized additions, conditional or alternate Bids, or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous.
3. If the Bidder fails to acknowledge in the Bid receipt of any or all addenda current on the date of opening of Bids.
4. If the Bid does not contain a unit price or lump sum amount for each item listed except in the case of authorized alternative items.
5. If there is an interlineation, white out, or erasure in the Bid Forms.
6. If the Bid is unbalanced so that (1) each pay item does not carry its own proportion of cost, or (2) any pay item contains an inadequate or unreasonable price.

IV-7 **NOTICE TO APPARENT LOW BIDDER – EXECUTION OF CONTRACT**

The Apparent Low Bidder will be given written notice of such status on the form included in the Bid Documents within ninety (90) days from the date of opening of Bids.

The Apparent Low Bidder shall provide required bonds and insurance forms within ten (10) business days from and including the date of the Notice to Apparent Low Bidder. Documents shall be submitted electronically via Surety2000 with the subject line "Contract Name, IFB Number, Bonds and Insurance". When the required bonds and insurance certificates are received, approval for the City to contract with the Apparent Low Bidder shall be sought in accordance with the Charter of the City and County of Denver. Such notice shall not create any rights in the Apparent Low Bidder to any contract with the City.

END OF INSTRUCTIONS TO BIDDERS

V. SPECIAL CONDITIONS

SPECIAL CONDITIONS

The special conditions relative to this contract are
contained in the pages immediately following this page.

These pages are not included in the page numbering of this contract document.



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DESIGN, ENGINEERING AND CONSTRUCTION –
STANDARD SPECIFICATION FOR CONSTRUCTION SPECIAL CONTRACT CONDITIONS
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)



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SPECIAL CONDITIONS

SC-1 CONSTRUCTION CONTRACT GENERAL CONDITIONS

The City and County of Denver ("City") Construction Contract General Conditions, which constitute a part of the Contract Documents, are outlined in a separately published document entitled "City and County of Denver, Department of Aviation and Department of Public Works, Standard Specifications for Construction, General Contract Conditions," 2011 Edition (informally referred to as the Yellow Book). The General Conditions are also available on the City's website at: <https://www.denvergov.org/content/dam/denvergov/Portals/743/documents/2011%20DENVER%20GENERAL%20CONTRACT%20CONDITIONS.pdf>

SC-2 CONTRACT DOCUMENTS WHICH WILL BE PROVIDED BY DENVER INTERNATIONAL AIRPORT ("DEN")

The City, through DEN, will provide the following Contract Documents to the Contractor in electronic format at no expense to the Contractor:

1. Document(s):
 - a. Technical Specifications
 - b. Design Standard Manuals
2. Drawings: Depending on the contracting methodology, The City will provide drawings and specifications specific to the work contemplated at the time that DEN solicits Contractor's proposal for work. Final versions of these drawings and specifications will be provided to the Contractor and incorporated in the contract, as applicable, and shall become Contract Documents at the time. Additional copies of the Contract Documents may be furnished to the Contractor at the Contractor's expense. The Contractor shall be responsible for supplying all subcontractors with copies of the Contract Documents at Contractor's expense. If Sensitive Security Information ("SSI") is provided to the Contractor, the Contractor shall comply with 49 C.F.R. § 1520, or its successor.
3. Approved Permit Logs

SC-3 COOPERATION WITH OTHERS/ONGOING WORK WHICH MAY BE OVERLAPPING

The Technical Specifications describe the constraints on the physical work site areas. These descriptions are not exhaustive, and the Contractor is required to coordinate its activities and work as may be required to meet Federal Aviation Administration ("FAA") or City requirements while performing the Work at DEN.

Without limiting the foregoing, other contracts administered by the City may involve work overlapping or adjoining the Work under this Contract and may be performed concurrently with the Work performed under this Contract. The Contractor is required to coordinate its performance of the Work with all other contractors, parties and stakeholders.

SC-4 PERFORMANCE AND COMPLETION OF THE WORK

The Work to be performed under the Contract is described in the Technical Specifications and Contract Drawings. The Contractor shall Complete the Work within 186 consecutive calendar days from Notice to Proceed. Work will commence on the west side of the terminal, work on the east side of the terminal will begin only after the west side is complete.



SC-5 LIQUIDATED DAMAGES

If the Contractor fails to complete the Work with the time specified in the Contract, including and Milestones identified therein, or if the Contractor causes disruptions to DEN activities or operation as defined in the Contract Documents, the Contractor shall pay the City liquidated damages at a rate of ten thousand dollars (\$10,000) per day until substantial completion is achieved. In an instance where damages with a financial impact are caused to DEN, the Contractor is liable to reimburse DEN for actual cost incurred.

Section 8 of the Contract and General Condition 602 cover payment and withholding of liquidated damages.

Within one hundred (100) days after issuance of Substantial Completion, all documentation required by this Contract to achieve Project Closeout shall be submitted. Failure to submit all required documentation shall result in fees to compensate the City for project management work while the project remains open. These shall be assessed even if no liquidated damages are provided or and paid for late completion.

A Liquidated Damage rate of \$450 per day for each day over 100 days that Contractor does not complete all required tasks and submittals to achieve Final Acceptance pursuant to GC 2002.2. If the City imposes and collects Liquidated Damages in any amount for late completion of milestones or other deadlines, the City will not also impose and collect late closeout fees pursuant to this SC. The resubmittal of required documents may extend the 100-day time frame at the DEN Project Manager's discretion.

SC-6 FACILITY SECURITY AND PERSONNEL ACCESS

The Contractor shall conduct all its activities at DEN in compliance with DEN's Airport Security rules and regulations, which are administered by DEN's Airport Operations Division. The Contractor shall obtain the proper access authorizations for its employees, subcontractors and suppliers (i.e., Badges and Permits), and shall be responsible for such persons' compliance with all the Airport Rules and Regulations. A copy of the Contractors' section of the Airport Security rules and regulations are available for Contractor review at the Airport Access Services Office, Concourse A East Subcore, 4th Level. Persons regularly entering the construction areas must obtain personnel access badges from the Airport Access Services Office and must display badges, at all times, upon entering the construction, restricted and sterile areas of the airport. Any employee, subcontractor or supplier who violates such rules may be subject to revocation of his access authorization, including authorization for access to the construction site and all other restricted and sterile areas.

The security status of the Airport is subject to change without notice. These Special Conditions are applicable to the current security status of the Airport. Should the security status of the Airport change at any time during the term of this Contract, a written notice shall be issued to the Contractor detailing all applicable security modifications from the airport's current security status. The Contractor shall take **immediate steps** to comply with those security modifications as directed in the written notice.

If these security modifications involve any additional project cost, the Contractor shall submit a Contractor Change Request in accordance with the General Conditions for the additional cost. The Contractor Change Request shall outline in specific detail the effects of the security modifications on the Contractor's performance of the Contract and shall provide a detailed cost breakdown for each item for which the Contractor is requesting reimbursement.

The Contractor shall return all access keys issued by the City to all areas of the Airport. If the Contractor fails to return any such key or keys at contract completion or termination, or upon demand by the City, the Contractor shall be liable to the City for related costs, including labor costs for employees, costs incurred in re-coring doors and any other work which is required to prevent compromise of Airport security. To collect such costs, the City may withhold funds in such amount from any amounts due and payable to the Contractor under this Contract.

If construction breaches any Airport perimeter security boundary or requires continued access to restricted access rooms or areas, the Contractor shall post authorized contract security personnel to maintain required security controls. The



Contractor's Contract and Execution Process Exhibit shall include the cost of providing security services to maintain control and supervision of any and all airport perimeter security boundary breaches and for the duration of work activities until the airport perimeter security boundaries are reestablished.

THE IMPORTANCE OF THIS SPECIAL CONDITION CANNOT BE OVER-EMPHASIZED. SEVERE FINANCIAL PENALTIES INCLUDING CONTRACT TERMINATION COULD RESULT IF AIRPORT PERIMETER SECURITY REQUIREMENTS ARE NOT STRICTLY FOLLOWED. THE CONTRACTOR SHALL PROVIDE ONE HUNDRED PERCENT (100%) CONTROL AND SUPERVISION TO PREVENT UNSUPERVISED/UNSECURED BREACHES IN THE AIRPORT'S PERIMETER SECURITY. AT NO TIME, DURING WORK AND NON-WORK HOURS, SHALL BREACHES IN THE AIRPORT'S SECURITY PERIMETER BE UNSUPERVISED/UNSECURED.

SC-7 CONSTRUCTION ACCESS

The work site is located at DEN Jeppesen Terminal, Level 5 Roadways West and East 8400 Pena Boulevard, Denver, Colorado 80249 as identified. The Contractor shall have access to the work site via Jeppesen Terminal. The Contractor shall be responsible for submitting a map detailing the routing of materials and equipment to DEN jobsite for approval. No equipment or materials are allowed on site without the Project Manager's approval.

The City will not provide parking spaces for the Contractor's employees or subcontractor employees at the Airport. Arrangements for transportation and parking for all employees, including subcontractors, shall be the responsibility of the Contractor. The Contract Bid Amount shall include any and all costs associated with the Contractor's and subcontractors' employee parking. Information about parking facilities and charges is available from the Airport Parking Office. Refundable deposits are required for all parking passes.

Unless specifically required by the Contract Documents, the Contractor shall install no fences or other physical obstructions on or around any project work area without the approval of the City.

VEHICLE PERMITTING

Vehicle access on the Airport Operation Area ("AOA") is controlled by and operated by DEN Airport Operations and DEN Airport Security. Contractor is required to obtain a vehicle access permit for any vehicle entering inside this area.

Contractor is responsible for complying with DEN Airport Operations and DEN Airport Security requirements. Only direct construction support vehicles and/or equipment will be allowed in the Contractor's work areas or sites.

SC-8 ACCESSIBLE PARKING SPACES, ACCESS AISLES AND ROUTES OF TRAVEL

The Contractor is responsible for compliance with this Special Condition for any Work performed in or adjacent to parking facilities at the Airport.

"Accessible" parking spaces and access aisles as used means parking spaces and access aisles which are accessible for, and reserved for use by, persons with disabilities. These parking spaces and access aisles are designed and built to standards established by federal regulations implementing the Americans with Disabilities Act of 1990 ("ADA") and are marked by signage. "Accessible routes of travel" as used herein means routes through parking facilities which comply with ADA accessibility standards, including degree of slope and absence of obstructions.

Accessible routes of travel and accessible parking spaces and access aisles must be kept free of obstructions and construction debris at all times. No accessible parking spaces or access aisles or accessible routes of travel shall be relocated, blocked or rendered unusable unless the contractor has obtained specific advance approval in writing for such actions from the airport's ADA Compliance Officer.

When the Work requires that accessible spaces be temporarily blocked, those accessible spaces and their access aisles shall be temporarily relocated to another location as close as possible to an accessible building entrance. Temporary



signage that identifies these parking spaces and access aisles as reserved for the persons with disabilities shall be installed, and the accessible route shall be clearly marked as required.

Before blocking or relocating accessible parking spaces or accessible routes of travel, the contractor must obtain written approval from the DEN ADA Compliance Officer, by submitting a completed request form, which will be provided to the Contractor by the Project Manager at the preconstruction meeting if it is not included as a standard form in Section 019990 of the Technical Specifications. The request shall include the location of alternative spaces and/or routes, and specifications of the temporary signage to be used. Work shall not proceed without this approval.

If a vehicle is parked in any accessible space which is either temporary or approved to be relocated, the Contractor shall not remove signage or take any other action which would allow the access aisle for such parking space to be blocked. Such actions must be postponed until the parking space is no longer occupied.

SC-9 VENDORS AND SUPPLIERS

The Contractor shall provide the Project Manager with a list of its equipment/material vendors and suppliers. Vendors or suppliers shall access the construction work areas via the Contractor's access route. All delivery vehicles are subject to search.

SC-10 COMMUNICATION DEVICES

Any site communications devices, mobile communication devices or internet data devices used at DEN must be approved by DEN Business Technologies prior to Task Order Notice to Proceed.

SC-11 USE, POSSESSION, OR SALE OF ALCOHOL OR DRUGS

The Contractor and its officers, agents, and employees shall cooperate and comply with Executive Order No. 94's provisions concerning the use, possession, or sale of alcohol or drugs. Violation of these provisions or refusal to cooperate with the policy implementation can result in the City's barring the Contractor from City facilities or participating in City operations.

SC-12 ATTORNEY'S FEES

C.R.S. § 38-26-107 requires that in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this Project, the City shall withhold from payments to the Contractor sufficient funds to ensure the Payment of any such claims. Should the City and County of Denver be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising from or relating to such withheld funds, the Contractor agrees to pay the City its costs and a reasonable attorney's fee. Because the City Attorney Staff does not bill the City for legal services hourly, the Contractor agrees a reasonable fee shall be computed at the rate of two hundred dollars (\$200.00) per hour of City Attorney time.

SC-13 BONDS, SALES TAX AND INSURANCE

All costs associated with Contractor's bonds requirements, sales and use tax, and insurance costs shall be reimbursed to the Contractor by the City at direct cost and without mark up; Under no circumstances shall the City reimburse or pay in any way any amount incurred by the Contractor for any such costs incurred by any subcontractors.



SC-14 DEN DEC SYSTEM REQUIREMENT

The Contractor shall be required to use the designated Project Management Information System (“PMIS”), including but not limited to, Unifier, BIM 360 Field and Primavera P6 compatible to comply with the requirements of DEN’s Project Controls System. The PMIS is DEC’s tool for Project and information management, data analysis and document control. DEN will be responsible for providing the licensing and training for PMIS to the Contractor. The Contractor shall be responsible for providing a compatible PC system that can support Primavera P6. The Contractor shall also be responsible for providing and maintaining the computer hardware, software and system environment capable of supporting Project Controls System requirements including at least: internet connection; Microsoft Windows 10 or better; Microsoft Office 2010; Oracle Java JRE 1.7.0 Update 5 and Adobe Acrobat X Pro. PMIS is the only project management system that will be accepted. All aforementioned systems are subject to change, at the City’s sole discretion. The Contractor is required to follow all project controls technical specifications and process guidelines.

SC-15 PAYMENTS TO CONTRACTORS

To the fullest possible within the financial payment system, the City shall be entitled to all non-Confidential records, reports, data, and other information related to the Project that is available to Contractor through the financial payment system, including but not limited to, information related to Contractor and subcontractor billings. To that end, the Contractor shall activate any available settings within the financial payment system that are necessary to grant the City access to such non-Confidential information related to the Contract and the Project. Applications for payment shall be based on the Contract Unit Prices or the approved Schedule of Values described in GC 903.1.

In accordance with General Condition 902, PAYMENT PROCEDURE, the party(ies) responsible for the review of all Pay Applications shall be:

Agency/Firm
 DEN Division CA
 DEN Division PM
 DEN Division Supervisor
 DEN Division Director
 DEN Contract Svcs CA
 CCD Denver Prevailing Wage
 DEN DSBO

SC-16 PAYMENTS TO SUBCONTRACTOR AND SUBCONTRACTOR RELEASES

The Contractor is required to use the City B2G Contract Management System to report all subcontractor payments and shall adhere to the City’s Procedure for Reporting Subcontractor Payments. It is the Contractor’s obligation to ensure that complete subcontractor information is entered into the B2G System prior to submission of the first Application for Payment in order to avoid any delays in payment. The Contractor shall, prior to the submission of each subsequent invoice, ensure payments to subcontractors have been entered into the B2G System, including subcontractor confirmation of the amount of payment received, for services performed during the prior billing period.

SC-17 LISTING OF ACCEPTABLE MANUFACTURERS

The Technical Specifications list “Acceptable Manufacturers” for certain products. Such listing identifies manufacturers of certain products which have been determined by a preliminary review to be able to meet the basic product and/or



system technical requirements. The listing is not intended to provide a blanket endorsement or acceptance of the manufacturer's specified products or product line. All products from listed manufacturers must meet the detailed requirements of the Technical Specifications. Products that do not meet all detailed Technical Specifications are not acceptable and will be rejected, regardless of whether the manufacturer was listed as "acceptable." The Contractor is responsible for determining the acceptability of all products under the Technical Specifications prior to submission of products for approval.

SC-18 GENERAL REVISIONS

GC 118: The term "subcontractor" includes a labor pool

GC 201: The second sentence of General Condition 201 is amended to read: "The unit responsible for this management and control is the Design, Engineering, and Construction Division ("DEC") under the supervision of the Senior Vice President for the Design, Engineering, and Construction Division."

GC 214: In accordance with General Condition 214, the City's line of authority for the administration of this Contract is:

1. Chief Executive Officer, Department of Aviation ("CEO"). Executive Office, 9th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249. Any reference to the Manager of Aviation shall also mean the CEO.
2. Executive Vice President – Chief Construction and Infrastructure Officer ("EVP-CCIO"), who reports to the CEO. Executive Office, 9th Floor, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
3. Senior Vice President – Design, Engineering, and Construction f/k/a Airport Infrastructure Management ("SVP-DEC") who reports to the EVP-CCIO. DEC, Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
4. Director of Facility Design and Construction, who reports to the SVP-DEC. DEC Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249.
5. The Project Manager is the City representative with day-to-day administrative responsibility for this Contract and reports to the Director of Facility Design and Construction. All notices, requests, pay applications (pursuant to GC 902), and other correspondence from the Contractor shall be sent to the assigned Project Manager unless otherwise provided in this Contract. The Project Manager for this Contract is Steven Toeppen, DEC, 111 Airport Office Building, 8500 Peña Boulevard, Denver, CO 80249, phone 303- 342-4477.
6. The CEO may occasionally substitute a different City official as the designated "SVP-DEC" hereunder, and any such change will be effective upon the issuance of written notice to the Contractor, which identifies the successor SVP-DEC. The SVP-DEC may, from time to time, change the assigned Project Manager, and any such change will be effective upon the issuance of written notice to the Contractor, which identifies the successor, the Project Manager.

GC 501: With respect to General Condition 501, no more than ninety percent (90%) of the Work may be subcontracted. If it is determined to be in the City's best interest, the SVP-DEC may modify this percentage during the Term of the Contract by prior written authorization signed by the SVP-DEC.

GC 902.3: is amended by the addition of the following:

1. Where applicable, issued hereunder, progress payments for the performance of any Work shall be based on completed Work estimates and shall be subject to the following requirements:
 - a. The Contractor shall submit a complete and separate application for payment for the Work estimates during the specified billing period.
 - b. Each submitted estimate shall specify the percent of the Work completed. This percentage shall be certified by the Contractor's Project Engineer/Manager or the Consulting Architect or Engineer, as appropriate.



- c. Each estimate of Work completed shall also specifically identify those MBE/WBE Subcontractors or Suppliers that the Contractor is utilizing on the Project pursuant to the requirements of Article VII, Divisions 1 and 3 of Chapter 28 of the Denver Revised Municipal Code, as applicable.
2. Each estimate of Work shall be submitted using a separate Application for Progress Payment Task Order Contracts (Form CM-18A), accompanied by either duplicate sets of verified Contractor's Certifications of Payment (Form CM-19) or by verified Partial Release of Contractor forms from each subcontractor and supplier (Form CM-26). Each estimate of Work completed shall also be accompanied by the following:
 - a. A written Schedule of Values, which sets out the quantities and costs for the Project; and
 - b. The Contractor's Project Engineer/Manager's, or Consulting Architect or Engineer, as applicable, estimated statement of the percentage of Work completed for each line item of cost for which the City has promised to pay the Contractor. The Contractor shall also submit to the Auditor and other appropriate officials of the City, in a timely fashion, all information required by General Conditions Title 10.
3. The estimate of the percentage of estimated Work completed shall constitute a representation by the Contractor to the City that the Work has progressed to the point indicated; that the quality of the Work covered by the estimate is in accordance with the Contract Documents; that each obligation covered by the estimate (except as otherwise noted), and the payments required will be used to discharge such obligation unless previously discharged; and that the Contractor is entitled to payment in the amount requested. The Project Engineer/Manager or the Consulting Architect or Engineer, as appropriate, with the assistance of input from the Project Construction Manager, in the event that such has been retained, will also verify the estimate of Work completed prior to any acceptance by the City.
4. The Contractor warrants that:
 - a. Title to Work covered by an estimate of Work completed will pass to the City by incorporation into the completed Work;
 - b. Work covered by previous estimates of Work completed is free and clear of liens, claims, security interests, or encumbrances, hereinafter referred to as "liens," except for any interest created by retainage; and
 - c. No Work covered by an estimate of Work completed will have been acquired by the Contractor or any other person or entity performing Work at the work site or furnishing materials or equipment for the Project, and no work covered by any estimate is subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person or entity.
5. Approval of an estimate of Work completed or actual payment shall not foreclose the right of the City to examine the books and records of the Contractor to determine the correctness and accuracy of any estimate item.
6. The final estimate for payment shall also be accompanied by Final Lien Release forms from each subcontractor and supplier (Form CM-70).
7. Receipt of Contractor's Certifications of Payment forms by the City hereunder shall not act to impair the City's obligations imposed by Colorado Revised Statutes ("C.R.S.") § 38-26-107 or successor statute.

GC 906: In accordance with General Contract Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:

1. Each Application for Payment shall include each and every independent subcontractor's payroll information, including payment dates and payment amounts.



GC 1102.2 is amended by replacing the phrase “Change Request” in all its occurrences in such GC with the phrase “Change Notice.”

GC 1102.3 is amended by replacing the phrase “Field Order/Change Order Directive” in all its occurrences in such GC with the phrase “Change Directive.”

GC’s 1501, 1502, and 1503: Requirements for separate bonds, shall be furnished to the Project Manager before any Work is undertaken in connection with any Task Order. All other terms and conditions of General Conditions 1501, 1502, and 1503 shall remain in effect.

SPECIAL CONDITIONS FOR DELIVERY AND PRICE STRUCTURE TYPE

Based on the construction contract types (Design-Bid-Build, Design-Build, Progressive Design-Build, Construction Manager at Risk, Construction Manager/General Contractor, Lump Sum, Cost-Plus, GMP, Unit Price, and Time and Materials), the following are special conditions that could be included in the contract/task order:

SC-19 DELIVERY METHOD

SC-19.1 MODIFICATIONS TO GENERAL CONDITIONS:

GC 110 - Designer: The term "Designer" shall refer to the design professional(s) retained by the City.

GC 301.3 - Contractor's Responsibility: The Contractor shall be responsible for the construction means, methods, techniques, sequences, and procedures but shall not deviate from the design provided in the Contract Documents without written authorization from the City.

GC 401.4 - Requests for Information or Clarification: The Contractor shall submit any requests for clarification or interpretation of the Contract Documents to the City. The City's response shall be binding on both parties.

GC 405 - Shop Drawings, Product Data, and Samples: The Contractor shall submit Shop Drawings, Product Data, and Samples to the City for review and approval. The City's review shall be for conformance with the Contract Documents.

GC 1102 - City Initiated Changes: The City may initiate changes to the design or construction of the Work. The Contractor shall evaluate the impact of such changes and submit a proposal for any adjustments to the Contract.

GC 1402 - Site Inspections and Investigations: The Contractor shall conduct a thorough site investigation prior to submitting a bid. The Contractor acknowledges that by submitting a bid, they have carefully examined the site and are fully aware of all conditions that may affect the work. Claims for differing site conditions will not be considered unless such conditions could not have been reasonably discovered during the site investigation. The Contractor shall be entitled to rely on the accuracy of the information provided in the Contract Documents regarding site conditions. If the Contractor encounters differing site conditions, they may submit a claim for an adjustment to the Contract.

SC-19.2 REMOVALS FROM GENERAL CONDITIONS:

No specific removals are necessary for a Design-Bid-Build contract, as the General Conditions are well-suited for this traditional project delivery method.

SC-19.3 NEW CONDITIONS:

Design Responsibility: The City shall not be responsible for the design of the Work, and the Contractor shall construct the Work in accordance with the Contract Documents. The Contractor shall not be responsible for any design errors or omissions.



Differing Site Conditions: If the Contractor encounters differing site conditions that were not reasonably foreseeable and that materially affect the cost of performing the Work, the Contractor shall notify the City immediately. The Contractor shall submit a claim for adjustments to the Contract, supported by appropriate documentation.

Value Engineering: If applicable, the Contractor may submit value engineering proposals to the City. Value engineering proposals shall suggest alternative methods or materials that can achieve the same results as the original design at a lower cost. The City shall evaluate the value of engineering proposals and may share any realized cost savings with the Contractor, as specified in the Contract.

SC-20 FEE STRUCTURE

SC-20.1 PAY APPLICATION REQUIREMENTS

Milestone-Based Payments: For projects exceeding \$500,000, progress payments may be made on a milestone basis, with each milestone representing the completion of a defined phase or work package as outlined in the Schedule of Values. The Contractor shall submit a Pay Application upon reaching each milestone.

Change Order Documentation: All Change Orders shall be accompanied by detailed documentation, including a clear Definition of the change, a breakdown of costs, and an assessment of the impact on the project schedule. The Contractor shall maintain records of all Change Order-related costs and make them available for City review upon request.

Each Lump Sum Pay Application shall include the following:

1. **Progress Report:** A detailed report showing the percentage of Work completed relative to the total scope of Work, as agreed upon in the Contract.
2. **Supporting Documentation:** Documentation to support the progress of Work, including inspection reports, work schedules, and any other relevant records. Any costs for stored materials that are ready to incorporate into the project as per GC 906, as applicable at the task project manager's discretion. Stored materials must be adequately protected and insured, and evidence of such protection and insurance must be provided to the City upon request.
3. **Subcontractor Costs:** Breakdown and documentation for subcontracted work, indicating the percentage of completion and the amount invoiced.
4. **Change Orders:** Documentation of any approved Change Orders affecting the lump sum price, with a detailed account of their impact on the total payment.

SC-20.2 MODIFICATIONS TO GENERAL CONDITIONS:

GC 902.2 - Payment Procedure: The Contractor shall submit payment applications based on the percentage of Work completed, as determined by the Project Manager, and supported by the approved Schedule of Values.

GC 903 - Schedule of Values in Lump Sum Contracts: The Contractor shall provide a detailed Schedule of Values, breaking down the lump sum price into specific work items or phases, for the City's review and approval.

GC 906.2 - Applications for Payment: The Contractor shall demonstrate the percentage of Work completed for each item listed in the Schedule of Values in their payment applications.

GC 1104.1.A - Adjustment to Contract Amount: The preferred method for determining adjustments to the Contract Amount for changes in the Work shall be through negotiated lump sums, supported by detailed cost breakdowns if requested by the City.

GC 1104.7 - Variation in Quantity of Unit Priced Items: This condition may be removed or modified if the Contract does not include any unit-priced items.



SC-20.3 REMOVALS FROM GENERAL CONDITIONS:

GC 904 - Unit Price Contracts: This condition is removed as it does not apply to lump sum contracts.

SC-20.4 NEW CONDITIONS:

Payment Based on Percentage of Completion: Progress payments shall be made based on the percentage of work completed, as determined by the Project Manager, and supported by a detailed Schedule of Values. The Project Manager shall assess the completion percentage using a combination of physical inspection, progress reports, and other relevant documentation.

Schedule of Values Detail: The Schedule of Values shall provide a detailed breakdown of the Contract Sum, allocating specific amounts to each significant component of the Work. The level of detail shall be sufficient to enable accurate tracking of progress and payment. The Schedule of Values shall include, but not be limited to, the following:

Major work items: A detailed listing of all major components of the Work.

Unit prices: The unit price for each work item, if applicable.

Quantities: The estimated quantity of each work item.

Total amount: The total contract sum allocated to each major work item.

Change Order Pricing: Change Orders shall be priced on a negotiated lump sum basis whenever possible. The Contractor shall provide a detailed cost breakdown for any Change Order upon the City's request. If a lump sum price cannot be agreed upon, the parties shall negotiate a fair and reasonable price based on the nature and extent of the change.

Contingency Allowance: If a contingency allowance is included in the Contract Sum, it shall be used to cover unforeseen costs or risks associated with the Work. The amount of the contingency allowance shall be specified in the Contract. The Contractor shall submit a request for the use of the contingency allowance, along with supporting documentation, to the Project Manager for approval. Any unused portion of the contingency allowance may be adjusted to the Contract Sum at the completion of the Work.

SC-21 GENERAL PAY APPLICATION REQUIRES

SC-21.1 SUBMISSION SCHEDULE

GC 902 - Pay Applications shall be submitted monthly or as specified in the Contract Documents. Each application must be submitted within ten (10) days after the end of the billing period. GC 902 specifies the payment procedure, including monthly applications.

SC-21.2 REVIEW AND APPROVAL

GC 902.3 - The City reserves the right to review all Pay Applications and request additional information or documentation as necessary. The City will approve, reject, or request modifications to the application within twenty (20) days of receipt. GC 902.3 allows the City to review and approve payment applications.

1. To ensure clarity and compliance, here is a draft of additional supporting documentation that could be included with each pay application:
 - a. Lump Sum Pay Application
 - i. **Detailed Progress Report:** Breakdown of work completed by Work Breakdown Structure (WBS) or similar system, showing the percentage completed for each task and overall project progress. Narrative description of work performed during the billing period, highlighting any



challenges or accomplishments. Updated project schedule, reflecting actual progress and any potential delays.

- ii. **Photographic Documentation:** Date-stamped photos showing the progress of work at various stages, particularly for visually impactful elements or hidden work. Photos of stored materials demonstrating their condition and protection.
- iii. **Inspection Reports:** Copies of any relevant inspection reports, including quality control inspections, safety inspections, and third-party inspections. Documentation of any corrective actions taken in response to inspection findings.
- iv. **Material Invoices and Delivery Receipts:** Copies of invoices and delivery receipts for materials purchased and delivered to the project site, verifying quantities and costs. Material certifications or test reports, if applicable, ensuring compliance with project specifications.
- v. **Subcontractor Payment Documentation:** Copies of subcontractor invoices and lien waivers, demonstrating payment for work performed during the billing period. Subcontractor progress reports or certifications, verifying the percentage of work completed by each subcontractor.

SC-21.3 CERTIFICATION OF COSTS

GC 907 - The Contractor shall certify that all submitted costs are true and correct and that the expenses were incurred in performing the Work by the Contract. An authorized representative of the Contractor must sign the certification. GC 907 requires certifications of payment and releases.

SC-21.4 CERTIFICATION OF QUANTITIES

GC 907 - The Contractor shall certify that all quantities of Work submitted are accurate and that the Contract performed the Work. An authorized representative of the Contractor must sign the certification. GC 907 requires certifications of payment and releases.

SC-21.5 CERTIFICATION OF COMPLETION

GC 907 - The Contractor shall certify that the Work completed up to the date of the Pay Application has been performed in accordance with the Contract. An authorized representative of the Contractor must sign the certification. GC 907 requires certifications of payment and releases.

SC-21.6 RETAINAGE

GC 908 - A retainage amount as specified in the Contract Documents will be withheld from each Pay Application. The retainage will be released upon the Final Completion of the Work and acceptance by the City. GC 908 specifies retainage requirements.

SC-21.7 DISALLOWED COSTS

GC 909 - Costs or Work deemed incomplete, unsupported, or not by the Contract Documents will be disallowed. The Contractor shall not include such costs in future applications unless approved by the City. GC 909 allows the City to withhold payments for various reasons, including incomplete or unsupported work.

SC-21.8 DISALLOWED QUANTITIES

GC 909 - Quantities deemed unreasonable, unsupported, or not by the Contract Documents will be disallowed. The Contractor shall not include such amounts in future applications unless the City approves. GC 909 allows the City to withhold payments for various reasons, including unsupported quantities.



SC-21.9 FINAL PAYMENT

GC 910 & GC 2003 - Upon completion of the Work, the Contractor shall submit a Pay Application that includes all outstanding amounts. The final payment will be made upon the City's approval of the final application and completion of all Contract requirements. The Contractor must provide a final certification that all subcontractors and suppliers have been paid in full and that there are no outstanding claims or liens against the project. GC 910 and GC 2003 outline the final payment process, which includes similar requirements.

SC-21.10 AUDIT RIGHTS

GC 911 - The City reserves the right to audit the Contractor's Pay Applications records. The Contractor shall maintain all records for at least three (3) years after Final Completion of the Work. GC 911 grants the City audit rights.

SC-21.11 DISPUTE RESOLUTION

GC 1301 - In the event of a dispute regarding the Pay Applications, the Contractor and the City shall follow the dispute resolution procedures outlined in the Contract Documents. GC 1301 specifies the dispute resolution process.

SPECIAL CONDITIONS FOR OTHER CONTRACT ARTICLES

SC-22 Allowances

Definition: An allowance is a predetermined amount of money included in the Contract Amount to cover the cost of certain materials, equipment, or work items that are not fully defined or specified at the time of contract execution.

Inclusion in Contract: Allowances shall be clearly identified in the Contract Documents, specifying the work item or material covered, the allocated amount, and any applicable conditions or limitations.

Contractor's Selection: The Contractor shall be responsible for selecting and procuring the materials, equipment, or work items covered by allowances, subject to the City's approval and compliance with the Contract Documents.

Cost Documentation: The Contractor shall provide the City with detailed cost documentation, including invoices, receipts, and any other relevant information, to justify the actual cost incurred for the allowance items.

City Approval of Allowance Usage: The Contractor shall not exceed any Allowance without the prior written approval of the City. The Contractor shall submit a detailed request to the City for approval to utilize any portion of an Allowance that exceeds the amount specified in the Contract Documents. The request shall include:

1. A description of the specific work item or material for which the Allowance is being requested.
2. Detailed cost breakdown supporting the requested amount, including invoices, quotes, and any other relevant documentation.
3. Justification for exceeding the original Allowance amount, explaining the reasons for the additional cost.
4. Impact assessment on the project schedule, if any.

The City shall review the request and may, at its sole discretion:

1. **Approve** the request in full or in part and issue a Change Order to adjust the Contract Amount accordingly.
2. **Reject** the request, in which case the Contractor shall complete the work within the original Allowance amount or propose alternative solutions that meet the project requirements without exceeding the Allowance.
3. Request additional information or clarification from the Contractor before making a decision.

DESIGN, ENGINEERING AND CONSTRUCTION –
STANDARD SPECIFICATION FOR CONSTRUCTION SPECIAL CONTRACT CONDITIONS
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)



The City's decision shall be final and binding. The Contractor shall not proceed with any work exceeding the Allowance amount without obtaining prior written approval from the City. Failure to obtain such approval may result in the Contractor bearing the cost of any excess work.

Payment Adjustment:

1. If the actual cost of the allowance item is less than the allocated amount, the Contract Amount shall be reduced by the difference through a Change Order.
2. If the actual cost exceeds the allocated amount, the Contractor shall submit a Change Order request with supporting documentation. The City shall review the request and, if approved, adjust the Contract Amount accordingly. The Contractor shall not proceed with any work exceeding the allowance amount without prior written approval from the City.



Unused Allowances: Any unused portion of an allowance shall be credited back to the City through a Change Order.

END OF SPECIAL CONDITIONS

VI. ATTACHMENT 1, BID FORMS
Attachment 1, Part 1 Bid Acknowledgement Letter

CONTRACT NAME: Level 5 Dome and Ramps

CONTRACT NUMBER: 202475736

BID LETTER

BIDDER _____

Chief Executive Officer
City and County of Denver
Business Management Services (Procurement) Office
Airport Office Building, Room 8810
Denver International Airport
8500 Peña Boulevard
Denver, Colorado 80249

This letter is in response to the Notice of Invitation for Bids first published on December 4, 2024, for Contract No. 202475736, Denver International Airport, Level 5 Dome and Ramps

This contract is for a qualified contractor and Denver International Airport (DEN) to perform work located at terminal level 5 roadways east and west. Demolition includes existing crosswalks, curbs, ramps as noted in the drawings to accommodate the new layout. Installation includes raised crosswalks and vehicular ramps, passenger loading zones, along curbside sidewalks, cane detection devices for existing encroachments, new traffic and accessible wayfinding signage.

The undersigned Bidder declares that it has carefully examined the location of the proposed work and has carefully read and examined all of the Contract Documents which include, but are not limited to, the Contract Drawings, Technical Specifications, Construction Contract General Conditions, Special Conditions, Instruction to Bidders, and Equal Employment Opportunity EEO provisions, and hereby proposes to furnish all labor, materials, equipment, tools, transportation and services, and to discharge all duties and obligations necessary and required to perform and complete the Work as required in the Contract Documents which are provided herewith and by this reference made a part hereof for the prices shown in the Bid forms and totaled below:

TOTAL BASE BID Amount: _____

_____ Dollars and _____ Cents

(\$ _____).

The undersigned acknowledges receipt, understanding and full consideration of the following addenda to the Contract Documents:

Addenda Nos.: _____

The undersigned agrees that this Bid is a firm offer to the City to perform and complete the Contract described above which cannot be withdrawn for one hundred twenty (120) calendar days after the bids are opened or until after a contract for the work described in these Bid documents is fully executed by the City, whichever date is earlier.

The undersigned Bidder hereby agrees to appear at Denver International Airport, Business Management Services Office, Room 8810, Airport Office Building, at any time within ten (10) business days from the date of a written notice from the CEO to do so, mailed, emailed, or faxed to the business address of Bidder and at that time the Bidder shall: (1) deliver an executed Contract which conforms with this Bid; (2) furnish the required performance and payment bonds in the sum of the Total Contract Bid Amount shown above, executed by a surety company acceptable to the CEO; and (3) furnish the required insurance documents.

Enclosed herewith is a Bid guarantee, as defined in the Instructions to Bidders, in the amount of which Bid guarantee the undersigned Bidder agrees is to be paid to and become the property of the City as liquidated damages should the Bid be considered to be the best by the City and the undersigned Bidder notified that it is the apparent low Bidder and it fails to enter into contract in the form prescribed and to furnish the required performance and payment bonds and evidences of insurance within ten (10) business days as stipulated above.

Attached and incorporated herein are the proposed Schedule of Prices and Quantities and Bid Data Forms. All of the forms must be completed. Bidder acknowledges that the City may incorporate, at its option, any or all of the data submitted by the Bidder into a contract arising out of this Bid.

The undersigned Bidder acknowledges the right of the City to waive informalities in the Bids, to reject any or all Bids submitted, and to re-advertise for Bids.

The undersigned certifies that it has examined and is fully familiar with all of the provisions of the Contract Documents and is satisfied that they are accurate; that it has carefully checked all words and figures and all statements made in these Bid forms; and that it has satisfied itself with respect to the actual site conditions and the nature and location of the Work, the general and local conditions which may be encountered in the performance of the Work, and other matters which in any way affect the Work or the cost thereof.

[CERTIFICATION AND SIGNATURE ON FOLLOWING PAGES]

This Bid is submitted upon the declaration that neither, I (we), nor, to the best of my (our) knowledge, none of the members of my (our) firm or company have either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this Bid.

Dated this _____ day of _____, _____.

BUSINESS ADDRESS OF BIDDER: _____

City, State, Zip Code: _____

Telephone Number of Bidder: (____) _____

Fax Number of Bidder: (____) _____

Social Security or Employer ID. No. of Bidder: _____

Email Address: _____

SIGNATURE OF BIDDER:

PRINT NAME OF BIDDER:

Attest:

(Corporate Seal)

Secretary

By: _____
President

If no disclosure required in accordance with II-14, please sign affirmation statement.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Attachment 1, Part 3 Contract Information

1. Name of Bidder/Contractor: _____
2. Type of business entity: _____
NOTE: If Bidder is a partnership or joint venture, give full names of all partners or joint venturers. Bid must be signed by all joint venturers. If Bidder is a limited liability company, Bid must be signed by authorized manager (may be signed by member-manager if LLC is organized to allow management by members).
3. Prequalified by City and County of Denver as Construction Contractor : Categories:_____
- Monetary Limit:_____
4. Address of Contractor: _____
- _____
- _____
- Telephone: _____
- Email Address:_____
5. Established where and when: _____
6. Contractor’s Banks: _____
- _____
7. Principal Officers of Contractor (managers and members if LLC):
- Name: _____ Name: _____
- Title: _____ Title: _____
- Name: _____ Name: _____
- Title: _____ Title: _____

8. Bidder's/Contractor's City and County of
Denver Contractor License if obtained:
- License No.: _____
- Class: _____

Contractor license is required prior to construction, but not prior to Bid submittal.

9. State of Incorporation (or organization if LLC or partnership):
- _____

10. Bidder's Surety:
- _____

11. Surety's State of Incorporation:
- _____

12. Address of Contractor in other areas
(if different from No. 4):
- _____

13. Name and address of person to
receive payments:
- _____

14. If the Bidder/Contractor is a joint venture, attach a certified copy of the joint venture agreement.
The joint venture agreement will not be included as a Contract Document.

15. The Bidder/Contractor shall identify all applicable labor agreements (if any) to be used in the
performance of the Work:

16. References (Provide three professional references below):

1. Company Name:

Contact:

Project Title:

Email:

Phone Number:

2. Company Name:

Contact:

Project Title:

Email:

Phone Number:

3. Company Name:

Contact:

Project Title:

Email:

Phone Number:

CERTIFICATION

The undersigned certifies that to the best of his/her knowledge, the information presented in this Bid Data Form is a statement of fact and that the Bidder has the financial capability to perform the Work described in the Bidder’s submission.

Signature

Title

Print Name

Date

Attachment 1, Part 4 List of Proposed Non-MWBE Subcontractors

Bidder Company Name: _____

IFB Name: Level 5 Dome and Ramps

IFB No.: 202475736

Bidder shall list below the name, business address, work assignment and dollar value of each subcontractor that is **not** a DBE subcontractor that will perform work or labor or provide services to the Bidder relating to this Contract in an amount greater than one and one-half percent (1.5%) of the Bidder’s total Bid. Only one (1) subcontractor for each portion of the work shall be listed. Any proposed subcontractors to be utilized by the Bidder that are certified as a Small Business Enterprise (SBE) shall also be listed on the “List of Proposed Subcontractors” attached to this IFB.

If the Bidder does not identify a subcontractor to perform portions of the work which could be subcontracted on this form or the List of Proposed DBE Subcontractors, the Bidder, if it is awarded the Contract, agrees not to subcontract such portions that exceed one and one-half percent (1.5%) of the total Bid amount until the Contractor has advised the SVP of DEC in writing of the reasons why the subcontractor was not listed in the Bid submission and complied with the requirements of General Condition 502.

If the Bidder is awarded the Contract and does not enter into a subcontract with a subcontractor listed below or on the List of Proposed MWBE Subcontractors, the Bidder agrees not to subcontract any of the work assignment identified for that subcontractor until the Bidder has advised the SVP of DEC in writing of the reasons why a different subcontractor is being used and has obtained approval.

Subcontractor Information	Work Assignment	Subcontract Dollar Value
Name: _____ Address: _____ Phone: _____		
Name: _____ Address: _____ Phone: _____		

Attachment 1, Part 4 List of Proposed Non-DBE Subcontractors

Name: _____ Address: _____ _____ Phone: _____		
Name: _____ Address: _____ _____ Phone: _____		
Name: _____ Address: _____ _____ Phone: _____		
Name: _____ Address: _____ _____ Phone: _____		
Name: _____ Address: _____ _____ Phone: _____		

This page can be duplicated if additional sheets are required

Attachment 1, Part 5 Certification of Non-Segregated Facilities

The Bidder must certify that it does not maintain or provide for its employees any segregated facilities at any of its establishments and that it does not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Bidder certifies further that it will not maintain or provide for its employees segregated facilities at any of its establishments and that it will not permit its employees to perform their services at any location under its control, where segregated facilities are maintained. The Bidder agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin because of habit, local custom or any other reason. The Bidder agrees that (except where it has obtained identical certification from proposed subcontractors for specific time period) it will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding Ten Thousand Dollars (\$10,000) which are not exempt from the provisions of the Equal Opportunity Clause and that it will retain such certification in its files.

Dated: _____

Bidder Company Name: _____

By: _____

Title: _____

Attachment 1, Part 6 Equal Opportunity Report Statement

The Bidder shall review, complete, sign and submit with its Bid this Equal Opportunity Report Statement (Statement). A Bid may be considered unresponsive and may be rejected, in the City's sole discretion, if the Bidder fails to provide the fully executed Statement or fails to furnish required data. The Bidder shall also, prior to award, furnish pertinent information regarding its own employment policies and practices, as well as those of its proposed subcontractors, as the FAA, the Owner or the Executive Vice Chairman of the President's Committee may require.

The Bidder shall furnish similar Statements executed by each of its first tier and second-tier subcontractors and shall obtain similar compliance by such subcontractors before awarding subcontracts. No subcontract shall be awarded to any non-complying subcontractor.

Equal Opportunity Report Statement as Required in 41 C.F.R. 60-1.7(b)

The Bidder shall complete the following statements by checking the appropriate blanks. Failure to complete these blanks may be grounds for rejection of Bid:

1. The Bidder has ___ has not ___ developed and has on file at each establishment affirmative action programs pursuant to 41 C.F.R. 60-1.40 and 41 C.F.R. 60-2.
2. The Bidder has ___ has not ___ participated in any previous contract or subcontract subject to the equal opportunity clause prescribed by Executive Order No. 11246, as amended.
3. The Bidder has ___ has not ___ filed with the Joint Reporting Committee the annual compliance report on Standard Form 100 (EEO-1 Report).
4. The Bidder does ___ does not ___ employ fifty (50) or more employees.

Dated: _____

Bidder Company: _____

By: _____

Title: _____

Attachment 1, Part 7 Bid Bond**Bidder** _____

DENVER INTERNATIONAL AIRPORT

Level 5 Dome and Ramps

Contract No. 202475736

BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT _____, as Principal, and _____, a corporation organized and existing under and by virtue of the laws of the State of _____, and authorized to do business within the State of Colorado as Surety, are held and firmly bound unto the City and County of Denver, Colorado, as Obligee, in the full and just sum of _____ Dollars and _____ Cents (\$ _____) lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents:

WHEREAS, the said Principal is herewith submitting its Bid, dated on _____, _____, for the construction of Contract No. 202475736, Level 5 Dome and Ramps, Denver International Airport, as set forth in detail in the contract documents for the City and County of Denver, Colorado, and said Obligee has required as a condition for receiving said Bid that the Principal deposit specified Bid security in the amount of not less than five percent (5%) of the amount of said Bid, as it relates to work to be performed for the City, conditioned that in event of failure of the Principal to execute the Contract for such construction and furnish required Performance and Payment Bond if the Contract is offered them, that said sum be paid immediately to the Obligee as liquidated damages, and not as a Penalty, for the Principal's failure to perform.

The condition of this obligation is such that if the aforesaid Principal shall, within the period specified therefore, on the prescribed form presented to them for signature, enter into a written Contract with the Obligee in accordance with his Bid as accepted, and give Performance and Payment Bond with good and sufficient surety or sureties, upon the form prescribed by the Obligee, for the faithful performance and the proper fulfillment of said Contract, or in the event of withdrawal of said Bid within the time specified, or upon the payment to the Obligee of the sum determined upon herein, as liquidated damages and not as a Penalty, in the event the Principal fails to enter into said Contract and give such Performance and Payment Bond within the time specified, then this Obligation shall be null and void, otherwise to remain in full force and effect.

[END OF PAGE]

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

Attest: _____
PRINCIPAL

Secretary
[SEAL if Bidder a corporation] By: _____
President

SURETY

By: _____
Attorney-in-Fact

(ATTACH POWER OF ATTORNEY)

Power of Attorney shall be certified as to the date of Bid.

Attachment 1, Part 8 Lump Sum Bid Form

LUMP SUM BID FORM

The Lump Sum Bid Forms which apply to this contract are included as a separate Excel attachment in BidNet.

These pages are not included in the page numbering of this contract document.

Attachment 1, Part 9 Scope of Work

SCOPE OF WORK

The Scope of Work for this contract follows this cover page.

These pages are not included in the page numbering of this contract document.



SCOPE OF WORK

DESCRIPTION OF TASK:

Denver International Airport (DEN) requests the Contractor to provide a proposal for the Level 5 Dome and Ramps Enhancements. The work is located at Denver International Airport (DEN), terminal level 5 roadways east and west, 8400 Pena Blvd. Denver, CO 80249. The work will include all management, labor, supervision, coordination, materials, equipment, tools, testing, commissioning, incidentals, permits, and inspections as required for the completion of the reconfiguration to complete this scope of work and Division 1 specifications. Scope of work includes, but is not limited to, the following:

1. General Requirements
2. Demolition includes existing crosswalks curb ramps, etc. as noted and needed to accommodate the new layout.
3. Installation includes raised crosswalks and vehicular ramps, passenger loading zones along curbside sidewalks, cane detection devices for existing encroachments, new traffic and accessible wayfinding signage.
4. Modification of existing plumbing, electrical, systems as noted and to accommodate the new layout.
5. The Contractor is required to pay and obtain all trade permits and comply with all inspection requirements.
6. Plan review fees and the COMMCON permit will be paid by DEN.
7. The work will include all temporary construction to facilitate this work and ensure operational continuity.
8. The Contractor shall review all existing conditions to determine any electrical, plumbing, life safety, or utilities affected by the Work. Make necessary temporary connections to maintain existing services to all occupied and operations spaces.
 - Contractor to submit a pedestrian pathway and detour plan for each sequence of work. In conjunction provide all adequate signage for each sequence.
9. Parking for Contractor employees and trades will not be provided and shall be covered under your General Conditions within approved areas or shall be contained within your DEN approved work area. Any deposits required by DEN Parking shall be at the Contractor's expense.
10. Contractors shall provide temporary lighting (if required) to perform their work.
11. BIM (Building Information Model) Requirements: The contractor team will utilize and adhere to all BIM and Asset Management requirements and software platforms as outlined in the current Design Standards Manual – Digital Facilities & Infrastructure/BIM, project specifications, and BIM Project Execution Plan.
12. Unifier: DEN has implemented Oracle's Primavera Unifier, a project life cycle management application that will be used as a collaboration tool for the project. The consultant team, working with the DEN Project Manager, shall use the process as defined by DEN, for activities including reviewing RFIs, submittals, pay applications and change documentation.
13. Base bid and alternate bids to assume nighttime work

Coordination Efforts:

The contractor is expected to coordinate with DEN stakeholders alongside the DEN PM. This will be a necessary and joint effort. The contractor will provide the necessary staffing and resources to

accommodate stakeholder approved requests and have flexibility within their schedule to accommodate.

Schedule:

The contractor will provide a schedule showing a Notice to Proceed date of March 03, 2025.

1. As part of this proposal the Contractor shall include a baseline schedule.
2. The Contractors work week will be dictated by the duration of the stipulated 186 calendar days.
3. The project schedule shall be inclusive of all administrative and construction activities.

Miscellaneous:

1. All work related to this scope must be completed in accordance with Contract Documents.
2. This will be a ROCIP project.
3. All Textura costs shall be included in the proposal.
4. Dumpster (disposal and transportation) to be provided by contractor. The contractor shall coordinate all dumpster drop offs, pickups, and swaps.
5. Material delivery & storage:
 - a. Coordinate with DEN PM (Project Manager) with regards to material staging and laydown area. Routing and staging are the responsibility of the contractor.

Additional Bid Packages (use fee form for each request below)

1. Bid 2 – West
 - a. Provide pricing for West Parking Level 05 Domes and Ramps portion of the project
 - b. Schedule
 - i. Add Alternate 1 would start March 1, on with a duration no longer than 120 days
2. Bid 3 - East
 - a. Provide pricing for East Parking Level 05 Domes and Ramps portion of the project
 - b. Schedule
 - i. Add Alternate 2 start date would be to be determined following completion of add alternate 1 with a duration no longer than 90 days.

VII. ATTACHMENT 2, MWBE FORMS

DSBO FORMS

The DSBO forms which apply to this contract are
contained in the pages immediately following this page.

These pages are not included in the page numbering of this contract document.



DIVISION OF SMALL BUSINESS OPPORTUNITY (DSBO)
1A - LIST OF PROPOSED SUBCONTRACTORS,
SUBCONSULTANTS, AND/OR SUPPLIERS

City & County of Denver Contract No.: _____

List ALL (certified and non-certified) firms the undersigned will utilize on this project. If additional pages are required, please copy and attach the second page. This form must be updated and submitted to DSBO when subcontractors, subconsultants, and/or suppliers are added throughout the contract duration.

Contractor/Consultant		
Name of Firm: <input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:		
Signature:		Date:
Address:		
City:	State:	Zip:
Phone:	Email:	
Total Contract Value \$:	Self-Performing Contract Value \$:	

Subcontractors, Subconsultants, and/or Suppliers		
Name of Firm: <input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:		
Address:		
City:	State:	Zip:
Phone:	Email:	
Type of Service:	Contract Value \$:	
Anticipated Start Date:	Anticipated Completion Date:	

Name of Firm: <input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:		
Address:		
City:	State:	Zip:
Phone:	Email:	
Type of Service:	Contract Value \$:	
Anticipated Start Date:	Anticipated Completion Date:	



Name of Firm:			<input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:					
Address:					
City:		State:		Zip:	
Phone:		Email:			
Type of Service:		Contract Value \$:			
Anticipated Start Date:		Anticipated Completion Date:			

Name of Firm:			<input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:					
Address:					
City:		State:		Zip:	
Phone:		Email:			
Type of Service:		Contract Value \$:			
Anticipated Start Date:		Anticipated Completion Date:			

Name of Firm:			<input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:					
Address:					
City:		State:		Zip:	
Phone:		Email:			
Type of Service:		Contract Value \$:			
Anticipated Start Date:		Anticipated Completion Date:			

Name of Firm:			<input type="checkbox"/> MWBE (v) <input type="checkbox"/> SBE (v) <input type="checkbox"/> DBE (v) <input type="checkbox"/> EBE (v)		
Firm's Representative:					
Address:					
City:		State:		Zip:	
Phone:		Email:			
Type of Service:		Contract Value \$:			
Anticipated Start Date:		Anticipated Completion Date:			



DIVISION OF SMALL BUSINESS OPPORTUNITY (DSBO) LETTER OF INTENT (LOI)

Project/Contract No.:

Project Name:

A. The undersigned Bidder/Proposer will utilize the undersigned MWBE, SBE, EBE or DBE to perform work if awarded the contract. This Letter of Intent must be Signed by the Bidder/Proposer and MWBE, SBE, EBE or DBE. Certified self-performing Prime must complete both sections A and B. If the MWBE, SBE, EBE or DBE is a lower tier, section C must be completed and signed by the firm directly utilizing the certified firm.

Bidder/Proposer (Name of Firm):

Self-Performing:

☐ Yes ☐ No

Firm's Representative:

Title:

Signature (Firm's Representative):

Date:

Address:

City:

State:

Zip:

Phone:

Email:

B. The Following Section is To Be Completed by the MWBE, SBE, EBE or DBE, at any tier. Identify the scope of the work and NAICS code(s) to be performed and/or supply item that will be provided by the MWBE, SBE, EBE or DBE.

Name of Firm:

☐ MWBE

☐ SBE

☐ EBE

☐ DBE

Firm's Representative:

Title:

Signature:

Date:

Address:

City:

State:

Zip:

Phone:

Email:

Scope of Work:

NAICS Code(s):

The Bidder/Proposer will utilize the aforementioned MWBE, SBE, EBE or DBE for the Work/Supply described above. The cost of the total MWBE, SBE, EBE or DBE bid amount is (**List total amount for Suppliers/Brokers**):

\$

C. Lower Tier Utilization: If the certified firm is not a direct first tier subcontractor, subconsultant, and/or supplier to the Bidder/Proposer, please indicate the name of the firm that is utilizing the certified firm:

Name of Firm:

Firm's Representative:

Title:

Signature:

Date:

*If the above-named Bidder/Proposer is not determined to be the successful Bidder/Proposer by the City, this **Letter of Intent** shall be null and void.*



**DIVISION OF SMALL BUSINESS OPPORTUNITY (DSBO)
COMMITMENT TO MWBE PARTICIPATION**

This page must be completed by all Bidders/Proposers to indicate their commitment towards satisfying the MWBE participation requirement with City and County of Denver certified MWBE firms. The commitment ~~w~~ i i l l be incorporated into the contract and thereby the selected Bidder/Proposer will be held contractually responsible for the commitment.

MWBE COMMITMENT:

☐ The City and County of Denver has specified a _____% MWBE Participation goal of the total contract value +/- changes on this contract. The Bidder/Proposer is committed to meeting a _____% MWBE Participation requirement of the total contract value +/- changes on this contract.

GOOD FAITH EFFORT:

The Bidder/Proposer must make adequate and substantive good faith efforts to meet this goal to be deemed responsive by DSBO. The Bidder/Proposer must submit a detailed statement and documentation of their good faith efforts. Bidder/Proposer shall provide documentation considered demonstrative of a “good faith” effort as per the categories outlined in Chapter 28 of the D.R.M.C.

The undersigned Bidder/Proposer hereby agrees and understands that they must comply with their MWBE commitment on this project in conformity with the Requirements, Terms, and Conditions of this MWBE Procurement/Contract Language. Failure to comply is a material breach of the contract, which may result in the imposition of sanctions on the Contractor/Consultant, as deemed appropriate by DSBO.

Bidder/Proposer (Name of Firm): _____

Firm’s Representative: _____

Title: _____

Signature (Firm’s Representative): _____ Date: _____

Address: _____

City:	State:	Zip:
-------	--------	------

Phone:	Email:
--------	--------

VIII. ATTACHMENT 3, INSURANCE REQUIREMENTS

INSURANCE REQUIREMENTS

The insurance requirements relative to this contract are contained in the pages immediately following this page.

These pages are not included in the page numbering of this contract document.

EXHIBIT C

CITY AND COUNTY OF DENVER INSURANCE REQUIREMENTS FOR DEPARTMENT OF AVIATION OWNER CONTROLLED INSURANCE PROGRAM (OCIP/ROCIP) PROJECT

NOTICE OF CHANGE TO ROCIP: DEN reserves the right to terminate or modify the DEN ROCIP or any portion thereof. Further, dependent on factors including, but not limited to, the official timing and duration of the ROCIP project for which services are provided under this Agreement, DEN may need to transition from one ROCIP program to another and introduce corresponding requirements for contractors. DEN will provide Contractor notice in accordance with the terms and conditions of this Agreement.

1. General Information

City and County of Denver and Denver International Airport (hereinafter referred to collectively as “DEN”) has arranged for certain construction activities at DEN to be insured under an Owner Controlled Insurance Program (OCIP) or a Rolling Owner Controlled Insurance Program (ROCIP) (hereinafter collectively referred to as “ROCIP”). A ROCIP is a single insurance program that insures DEN, the Contractor and subcontractors of any tier, and other designated parties (Enrolled Parties), for work performed at the Project Site. Certain trade contractors and subcontractors are ineligible for this program; see ROCIP Insurance Manual Section 4. Insurance requirements are determined based on the scope of work.

1.2 ROCIP Manuals

Below are links to access the current reference manuals related to DEN ROCIP. These manuals are part of the Contract Documents.

[ROCIP Insurance Manual](#)

[ROCIP Safety Manual](#)

[ROCIP Claims Guide](#)

2. Insurance Requirements for Non-ROCIP Contractors and Subcontractors (Ineligible Parties)

Contractor and subcontractors of any tier shall require all Ineligible Parties, as defined in ROCIP Insurance Manual Section 4 or confirmed as excluded by DEN, to provide and maintain insurance of the type and in limits as set forth in the Contractor Subcontract Agreement and such insurance shall include the minimum defined coverages and be evidenced to DEN as required in this Section 2.

2.1 Certificate Holder

Certificate(s) shall be issued to:	CITY AND COUNTY OF DENVER Denver International Airport 8500 Peña Boulevard, Suite 8810 Denver CO 80249 Attn: Risk Management
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2.2 Acceptable Certificate of Insurance Form and Submission Instructions

Please read these requirements carefully to ensure proper documentation and receipt of your certificate(s) of insurance.

- ACORD FORM (or equivalent) certificate is required.
- SUBMIT via emailed in pdf format to: contractadmininvoices@flydenver.com
- ELECTRONIC CERTIFICATES are required, hard copy documents will not be accepted.

- THIRD PARTY SOFTWARE may be implemented during the term of this Agreement to manage insurance compliance and documents with required use by Vendor of such system.
- REFERENCE on the certificate must include the DEN assigned Contract Number.

2.3 Coverage and Limits

2.3.1 Commercial General Liability

Contractor shall maintain insurance coverage including bodily injury, property damage, personal injury, advertising injury, independent contractors, and products and completed operations in minimum limits of \$1,000,000 each occurrence, \$2,000,000 products and completed operations aggregate; if policy contains a general aggregate, a minimum limit of \$2,000,000 annual aggregate must be maintained.

- 2.3.1.1 Coverage shall include Contractual Liability covering liability assumed under this Agreement (including defense costs assumed under contract) within the scope of coverages provided.
- 2.3.1.2 Coverage shall include Mobile Equipment Liability, if used to perform services under this Agreement.

2.3.2 Business Automobile Liability

Contractor shall maintain a minimum limit of \$1,000,000 combined single limit each occurrence for bodily injury and property damage for all owned, leased, hired and/or non-owned vehicles used in performing services under this Agreement.

- 2.3.2.1 If operating vehicles unescorted airside at DEN, a \$10,000,000 combined single limit each occurrence for bodily injury and property damage is required.
- 2.3.2.2 If Contractor does not have blanket coverage on all owned and operated vehicles and will require unescorted airside driving privileges, then a schedule of insured vehicles (including year, make, model and VIN number) must be submitted with the Certificate of Insurance.
- 2.3.2.3 If transporting waste, hazardous material, or regulated substances, Contractor shall carry a Broadened Pollution Endorsement and an MCS 90 endorsement on its policy.
- 2.3.2.4 If Contractor does not own any fleet vehicles and Contractor's owners, officers, directors, and/or employees use their personal vehicles to perform services under this Agreement, Contractor shall ensure that one or both of the following coverages are maintained as appropriate: (i) Personal Automobile Liability including a Business Use Endorsement by the vehicle owner and (ii) Non-Owned Auto Liability by the Contractor.
- 2.3.2.5 If Contractor will be completing all services to DEN under this Agreement remotely and not be driving to locations under direction of the City to perform services, this requirement is waived.

2.3.3 Workers' Compensation and Employer's Liability Insurance

Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits no less than \$1,000,000 per occurrence for each bodily injury claim, \$1,000,000 per occurrence for each bodily injury caused by disease claim, and \$1,000,000 aggregate for all bodily injuries caused by disease claims.

2.3.3.1 Colorado Workers' Compensation Act allows for certain, limited exemptions from Worker's Compensation insurance coverage requirements. It is the sole responsibility of the Contractor to determine their eligibility for providing this coverage, executing all required documentation with the State of Colorado, and obtaining all necessary approvals. Verification document(s) evidencing exemption status must be submitted with the Certificate of Insurance.

2.3.4 Professional Liability (Errors and Omissions) Insurance

Contractor shall maintain a minimum limit of \$1,000,000 each claim and policy aggregate, providing coverage for applicable services outlined in this Agreement. If there are no applicable professional services, this coverage will not be required.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.5 Contractor's Pollution Legal Liability

If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain coverage for its work site operations that are conducted on DEN's premises including project management and site supervision duties with a limit no less than \$1,000,000 each occurrence and aggregate resulting from claims arising out of a pollution condition or site environmental condition resulting out of work site operations on DEN's premises.

2.3.5.1 Coverage shall include claims/losses for bodily injury, property damage including loss of use of damaged property, defense costs including costs and expenses incurred in the investigation, defense or settlement of claims, and cleanup cost for pollution conditions resulting from illicit abandonment, the discharge, dispersal, release, escape, migration or seepage of any solid, liquid, gaseous or thermal irritant, contaminant, or pollutant, including soil, silt, sedimentation, smoke, soot, vapors, fumes, acids, alkalis, chemicals, electromagnetic fields, hazardous substances, hazardous materials, waste materials, low level radioactive waste, mixed wastes, on, in, into, or upon land and structures thereupon, the atmosphere, surface water or groundwater on the DEN premises.

2.3.5.2 Work site means a location where covered operations are being performed, including real property rented or leased from DEN for the purpose of conducting Contractor's covered operations.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.6 Cyber Liability

If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain a minimum limit of \$1,000,000 per occurrence and \$1,000,000 annual policy aggregate covering claims involving privacy violations, information theft, damage to or destruction of electronic information, intentional and/or unintentional release of private information, alteration of electronic information, extortion, and network security.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.7 Technology Errors and Omissions, Network Security, and Privacy Liability (Cyber):
If required by DEN Risk Management for any specific Excluded Party based on their scope of work, Contractor shall maintain a limit no less than \$1,000,000 each claim and aggregate; \$1,000,000 each claim and aggregate for cyber extortion; and no less than \$250,000 each claim for invoice manipulation and email spoofing.

2.3.7.1 Coverage shall include, but not be limited to, liability arising from theft, dissemination and/or use of personal, private, confidential, information subject to a non-disclosure agreement, including information stored or transmitted, privacy or cyber laws, damage to or destruction of information, intentional and/or unintentional release of private information, alteration of information, extortion and network security, introduction of a computer virus into, or otherwise causing damage to, a customer's or third person's computer, computer system, network or similar computer related property and the data, software, and programs thereon, advertising injury, personal injury (including invasion of privacy) and intellectual property offenses related to internet.

The Contractor shall be responsible for conferring with DEN Risk Management on any subcontractors providing work to the Project to obtain a formal determination if this coverage will be required.

2.3.8 Unmanned Aerial Vehicle (UAV) Liability

If Contractor desires to use drones in any aspect of its work on DEN premises, the following requirements must be met prior to commencing any drone operations:

- 2.3.8.1 Express written permission must be granted by DEN.
- 2.3.8.2 Express written permission must be granted by the Federal Aviation Administration (FAA).
- 2.3.8.3 Drone equipment must be properly registered with the FAA.
- 2.3.8.4 Drone operator(s) must be properly licensed by the FAA.
- 2.3.8.5 Contractor must maintain UAV Liability including flight coverage, personal and advertising injury liability, and hired/non-owned UAV liability for its commercial drone operations with a limit no less than \$1,000,000 combined single limit each occurrence for bodily injury and property damage.

2.3.9 Excess/Umbrella Liability

Combination of primary and excess coverage may be used to achieve minimum required coverage limits. Excess/Umbrella policy(ies) must follow form of the primary policies with which they are related to provide the minimum limits and be verified as such on any submitted Certificate of Insurance.

2.4 Reference to Project and/or Contract

The DEN Project and/or Contract Number and project description shall be noted on the Certificate of Insurance.

2.5 Additional Insured

For all coverages required under this Agreement (excluding Workers' Compensation and Professional Liability, if required), Contractor's insurer(s) shall include the City and County of Denver, its elected and appointed officials, successors, agents, employees and volunteers as Additional Insureds by policy endorsement.

2.6 Waiver of Subrogation

For all coverages required under this Agreement (excluding Professional Liability, if required), Contractor's insurer(s) shall waive subrogation rights against the City and County of Denver, its elected and appointed officials, successors, agents, employees and volunteers by policy endorsement.

If Contractor will be completing all services to the City under this Agreement remotely and not be traveling to locations under direction of the City to perform services, this requirement is waived specific to Workers' Compensation coverage.

2.7 Notice of Material Change, Cancellation or Nonrenewal

Each certificate and related policy shall contain a valid provision requiring notification to the Certificate Holder in the event any of the required policies be canceled or non-renewed or reduction in required coverage before the expiration date thereof.

- 2.7.1 Such notice shall reference the DEN assigned contract number related to this Agreement.
- 2.7.2 Said notice shall be sent thirty (30) days prior to such cancellation, non-renewal or reduction in coverage unless due to non-payment of premiums for which notice shall be sent ten (10) days prior.
- 2.7.3 If such written notice is unavailable from the insurer or afforded as outlined above, Contractor and/or its insurance broker/agent shall provide written notice of cancellation, non-renewal and any reduction in coverage to the Certificate Holder within seven (7) business days of receiving such notice by its insurer(s) and include documentation of the formal notice received from its insurer(s) as verification. Contractor shall replace cancelled or nonrenewed policies with no lapse in coverage and provide an updated Certificate of Insurance to DEN.
- 2.7.4 In the event any general aggregate or other aggregate limits are reduced below the required minimum per occurrence limits, Contractor will procure, at its own expense, coverage at the requirement minimum per occurrence limits. If Contractor cannot replenish coverage within ten (10) calendar days, it must notify the City immediately.

2.8 Cooperation

Contractor agrees to fully cooperate in connection with any investigation or inquiry and accept any formally tendered claim related to this Agreement, whether received from the City or its representative. Contractor's failure to fully cooperate may, as determined in the City's sole discretion, provide cause for default under the Agreement. The City understands acceptance of a tendered claim does not constitute acceptance of liability.

2.9 Additional Provisions

- 2.9.1 Deductibles or any type of retention are the sole responsibility of the Contractor.
- 2.9.2 Defense costs shall be in addition to the limits of liability. If this provision is unavailable that limitation must be evidenced on the Certificate of Insurance.
- 2.9.3 Coverage required may not contain an exclusion related to operations on airport premises.
- 2.9.4 A severability of interests or separation of insureds provision (no insured vs. insured exclusion) is included under any policy requiring Additional Insured status.
- 2.9.5 A provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by DEN, excluding Professional Liability and Workers' Compensation policies, if required.

- 2.9.6 The insurance requirements under this Agreement shall be the greater of (i) the minimum limits and coverage specified hereunder or (ii) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the Contractor. It is agreed that the insurance requirements set forth herein shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums set forth in this Agreement.
- 2.9.7 All policies shall be written on an occurrence form when available and industry norm. If an occurrence form is unavailable and/or the industry norm, claims-made coverage may be accepted by DEN provided the retroactive date is on or before the Agreement Effective Date or the first date when any goods or services were provided to DEN, whichever is earlier, and continuous coverage will be maintained or an extended discovery period of three years beginning at the time work under this Agreement is completed or the Agreement is terminated, whichever is later.
- 2.9.8 Certificates of Insurance must specify the issuing companies, policy numbers and policy periods for each required form of coverage. The certificates for each insurance policy are to be signed by an authorized representative and must be submitted to the City at the time Contractor signed this Agreement.
- 2.9.9 The insurance shall be underwritten by an insurer licensed or authorized to do business in the State of Colorado and rated by A.M. Best Company as A- VIII or better.
- 2.9.10 Certificate of Insurance and Related Endorsements: The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. All coverage requirements shall be enforced unless waived or otherwise modified in writing by DEN Risk Management. Contractor is solely responsible for ensuring all formal policy endorsements are issued by their insurers to support the requirements.
- 2.9.11 The City shall have the right to verify, at any time, all coverage, information, or representations, and the insured and its insurance representatives shall promptly and fully cooperate in any such audit the City may elect to undertake including provision of copies of insurance policies upon request. In the case of such audit, the City may be subject to a non-disclosure agreement and/or redactions of policy information unrelated to the required coverage and premium amounts.
- 2.9.12 No material changes, modifications, or interlineations to required insurance coverage shall be allowed without the review and written approval of DEN Risk Management.
- 2.9.13 Contractor shall be responsible for ensuring the City is provided updated Certificate(s) of prior to each policy renewal.
- 2.9.14 Contractor's failure to maintain required insurance shall be the basis for immediate suspension and cause for termination of this Agreement, at the City's sole discretion and without penalty to the City.

2.10 Part 230 and the DEN Airport Rules and Regulations

If the minimum insurance requirements set forth herein differ from the equivalent types of insurance requirements in Part 230 of the DEN Airport Rules and Regulations, the greater and broader insurance requirements shall supersede those lesser requirements, unless expressly excepted in writing by DEN Risk Management.

3. Insurance Requirements for ROCIP Enrolled Contractors and Subcontractors

3.1 Insurance Provided by the DEN ROCIP

DEN retains the right to have this Project insured under a ROCIP. ROCIP coverage shall provide: (i) Commercial General Liability, (ii) Workers' Compensation & Employer's Liability, (iii) Excess Liability, (iv) Contractor's Pollution Liability, and (v) Builder's Risk as outlined herein and as defined by the respective policies for each coverage, for the period from the start of Work through completion and final acceptance by DEN except as otherwise provided herein.

3.2 Enrollment Required

Parties performing labor or services at the Project Site are eligible to enroll in the DEN ROCIP, unless they are Ineligible Parties (as defined in ROCIP Insurance Manual Section 4). Participation is mandatory but not automatic. Parties eligible for enrollment shall follow the procedures and follow the instructions as provided in the DEN ROCIP Insurance Manual to enroll in the program. When the Contractor and subcontractors of any tier are properly enrolled, the DEN ROCIP Administrator will issue a Certificate of Insurance evidencing the coverages afforded to each Enrolled Party under the DEN ROCIP, prior to their commencing Work on the Project Site.

3.3 Exclusion of Contractor/Subcontractor Insurance Costs from Proposal and Bid Prices

Contractor shall exclude from Contractor's cost of work and ensure that each subcontractor of any tier exclude from their cost of work, normal costs for insurance for those coverages provided under the DEN ROCIP. As part of the enrollment process, Contractor and subcontractors shall provide policy declaration rate pages and deductible endorsements on the General Liability, Workers' Compensation, and Excess Liability policies as required in the DEN ROCIP Insurance Manual. The calculation of these costs will be determined by the ROCIP Program Administrator. The costs of DEN ROCIP coverage includes reductions in insurance premiums, all relevant taxes and assessments, markup on insurance premiums, and losses retained through large deductibles, self-insured retentions, or self-funded programs. Change orders shall also exclude the cost of ROCIP coverage.

Pre-employment substance abuse testing costs will be covered by DEN and should be removed from bid prices. Drug testing will be more thoroughly discussed in the ROCIP Safety Manual.

3.4 Insurance Premiums

DEN will pay the insurance premiums for the DEN ROCIP insurance policies. DEN is responsible for all adjustments to the premiums and will be the sole beneficiary of all dividends, retroactive adjustments, return premiums, and any other monies due through audits or otherwise. The Contractor assigns to DEN the right to receive all such adjustments and will require that each subcontractor of any tier assign to DEN all such adjustments. The Contractor and the subcontractors who are Enrolled Parties shall execute such further documentation as may be required by DEN to accomplish this assignment.

3.5 Off Site Operations Coverage Under ROCIP

The DEN ROCIP will provide certain insurance coverage for DEN, Contractor and Enrolled Parties, along with their Eligible Employees performing Work at the Project Site. Off-site operations shall be covered only if designated in writing by DEN and when all operations at such site are identified and solely dedicated to the Project. Contractors and subcontractors are responsible to notify the DEN ROCIP Administrator in writing, to request coverage for specified off-site operations. Coverage is not provided at the off-site location unless confirmed in writing by the DEN ROCIP Administrator.

3.6 DEN ROCIP Insurance Manual

As soon as practicable, the DEN ROCIP Insurance Manual will be sent to each Enrolled Party and will become a part of the Contract and Contractor's Subcontract with its subcontractor and its subcontractors' agreements with any lower-tier subcontractor. The DEN ROCIP Insurance Manual will contain the administrative and claim reporting procedures. Contractor agrees to and will require that its subcontractors of any tier to cooperate with the DEN ROCIP Administrator in providing all required information.

3.7 Conflicts

Descriptions of the DEN ROCIP coverages set forth in ROCIP Insurance Manual Section 4.6 are not intended to be complete or meant to alter or amend any provision of the DEN ROCIP insurance policies. The DEN ROCIP coverages, terms, conditions, and exclusions are set forth in full in their respective policy forms. In the event of a conflict or omission between the coverages provided in the DEN ROCIP insurance policies and the coverages summarized or described in the DEN ROCIP Insurance Manual, this Exhibit or elsewhere in the Contract Documents, the DEN ROCIP insurance policies shall govern. In the event of a conflict between the provisions of this Exhibit and the DEN ROCIP Insurance Manual, that does not involve any conflict with the provisions of the DEN ROCIP insurance policies, the provisions of this Exhibit shall govern.

3.8 ROCIP Insurance Coverage Provided to Enrolled Parties

3.8.1 Insurance Provided by DEN

Unless otherwise provided herein, prior to commencement of the Work, DEN, at its sole option and expense, shall secure and maintain at all times during the performance of this Contract the insurance specified below, insuring DEN, Enrolled Parties and such other persons or interests as DEN may designate with limits not less than those specified below for each coverage.

3.8.1.1 Workers’ Compensation & Employer’s Liability – On Site Only

DEN shall maintain the coverage as required by statute for the Project Site and shall maintain Employer’s Liability insurance with limits no less than \$1,000,000 per occurrence for each bodily injury claim, \$1,000,000 per occurrence for each bodily injury caused by disease claim, and \$1,000,000 aggregate for all bodily injuries caused by disease claims.

3.8.1.2 Commercial General Liability – On Site Only

DEN shall maintain insurance coverage including bodily injury, property damage, personal injury, advertising injury, and products and completed operations in minimum limits as listed below:

Coverage	Limit
Annual General Aggregate (Per Project and Reinstates Annually)	\$4,000,000
Products/Completed Operations Aggregate (Per Project and Statute of Repose)	\$4,000,000
Total Products/Completed Operations Aggregate (Statute of Repose)	\$20,000,000
Personal / Advertising Injury Limit	\$2,000,000
Each Occurrence Limit	\$2,000,000
Fire Damage Legal Liability (any one fire)	\$ 300,000
Medical Payments (any one person)	\$ 10,000

3.8.1.3 Excess Liability Insurance

DEN shall maintain coverage following form with underlying policies of Commercial General Liability and Employer’s Liability in minimum limits as listed below:

Coverage	Limit
Annual General Aggregate (Per Project and Reinstates Annually)	\$200,000,000
Products/Completed Operations Aggregate (Per Project)	\$20,000,000
Total Products/Completed Operations Aggregate (Policy Cap)	\$400,000,000
Each Occurrence Limit	\$200,000,000

DEN, in its sole discretion, may elect to provide higher limits, based on Project size. Excess Liability limits are shared by all Insured parties.

3.8.1.4 Contractor's Pollution Liability

DEN shall maintain coverage for bodily injury, property damage, or environmental damage caused by a pollution event resulting from covered operations, including completed operations, at the Project Site with a limit no less than \$10,000,000 each occurrence and aggregate. Coverage includes microbial matter and legionella pneumophila in any structure on land and the atmosphere contained within the structure. Products/Completed Operations coverage may extend for the statute of limitations/repose after final completion of the Project.

3.8.1.5 Builder's Risk Insurance

DEN shall maintain, Builder's Risk (and/or Installation Floater) in the amount of \$200,000,000 per occurrence subject to various sublimits (as defined in the Builders' Risk Policy). Such insurance shall end when the first of the following occurs: 1) DEN's interest in the Work ceases; 2) the policy expires or is cancelled; or 3) the Work is accepted by DEN.

Builder's Risk Insurance limits are shared by all insured parties and shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss of damage including , theft, vandalism, malicious mischief, terrorism, rigging and hoisting for materials and equipment that are part of the Project, collapse, earthquake, flood, windstorm, falsework, testing and startup (as provided by the policy), temporary buildings and debris removal including demolition occasioned by enforcement of any applicable ordinance laws, and shall cover reasonable compensation for services and expenses required as a result of such insured loss.

This Builder's Risk Insurance shall cover portions of the Work stored off site, and also portions of the Work in transit.

DEN and Contractor shall waive all rights against (1) each other and any of their subcontractors of any tier, and all respective agents and employees, and (2) the architect, architect's consultants, separate contractors, if any, and any of their subcontractors of any tier, and all respective agents and employees, for damages caused by fire or other causes of loss to the extent covered by Builder's Risk Insurance obtained pursuant to this Section or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by DEN as fiduciary. DEN or Contractor, as appropriate, shall require of the architect, architect's consultants, separate contractors, and their subcontractors of any tier, and all respective agents and employees, by appropriate agreements, written where

legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

3.8.2 Claim Chargeback

A claim charge-back will be assessed, regardless of fault, for the amount of any loss payable under this program with the exception of Workers' Compensation and Excess Liability, up to a maximum of \$25,000 each loss. General Contractor may elect to pass no more than \$5,000 of this charge, each loss, through to any responsible subcontractor.

3.9 Other Insurance Provided By Enrolled Parties

At their own expense, the Enrolled Parties of all tiers must carry the following minimum coverage and limits and such insurance shall be evidenced to DEN and the DEN ROCIP Administrator as required in this Section 3.9.

3.9.1 Certificate Holder

Certificate(s) shall be issued to:

CITY AND COUNTY OF DENVER
 Denver International Airport
 8500 Peña Boulevard, Suite 8810
 Denver CO 80249
 Attn: Risk Management

and

CITY AND COUNTY OF DENVER
 Department of Aviation
 c/o Marsh USA, Inc.
 111 SW Columbia, Ste 500
 Portland, OR 97201

3.9.2 Acceptable Certificate of Insurance Form and Submission Instructions

Please read these requirements carefully to ensure proper documentation and receipt of your certificate(s) of insurance.

- ACORD FORM (or equivalent) certificate is required.
- SUBMIT via emailed in pdf format to: contractadmininvoices@flydenver.com and DenverAirport.ROCIP@marsh.com
- ELECTRONIC CERTIFICATES are required, hard copy documents will not be accepted.
- THIRD PARTY SOFTWARE may be implemented during the term of this Agreement to manage insurance compliance and documents with required use by Vendor of such system.
- REFERENCE on the certificate must include the DEN assigned Contract Number.

3.9.3 Other Insurance Requirements

Enrolled Contractors shall adhere to the same minimum insurance requirements as stated in Section 2 of this exhibit, with the following exceptions:

- Commercial General Liability coverage requirement is Off Site Only

- Workers' Compensation and Employer's Liability coverage requirement is Off Site Only
- Contractor's Pollution Legal Liability is not required

4. Contractor Warranties and Agreements

4.1 Accuracy of Contractor-provided Information

Contractor warrants that all information submitted to DEN or the DEN ROCIP Administrator is accurate and complete to the best of its knowledge. Contractor will notify DEN or the DEN ROCIP Administrator immediately in writing of any errors discovered during the performance of the Work.

4.2 Contractor Responsible to Review Coverage

Contractor acknowledges that all references to DEN ROCIP policy terms, conditions, and limits of liability in this document, as well as the DEN ROCIP Insurance Manual, are for reference only. Contractor and its subcontractors of any tier are responsible for conducting their own independent review and analysis of the DEN ROCIP insurance policies in formulating any opinion or belief as to the applicability of such coverage in the event of any loss or potential claim. Any type of insurance or increase of limits not described above, which the Contractor requires for its own protection or on account of statute, shall be its own responsibility and at its own expense.

4.3 Audit

Contractor agrees to make its records available for review and to cooperate with DEN, its insurers and insurance brokers, the City Auditor, and representatives of the aforesaid parties in the event of an audit. In the event that a DEN audit of Contractor's records, as permitted in the Contract or other DEN ROCIP documents, reveals a discrepancy in the insurance, payroll, safety, or any other information required to be provided to DEN or the DEN ROCIP Administrator, or reveals inclusion of costs for DEN ROCIP coverage or other coverage beyond what is described above in any payment for the Work, DEN will have the right to deduct from payments due Contractor all such insurance costs as well as all audit costs.

4.4 Insurance Costs Removed

Contractor warrants that the costs for insurance as provided under the DEN ROCIP were not included in Contractor's bid or proposal for the Work, the Contract Price/Contract Sum, and will not be included in any change order or any request for payment for the Work or extra work.

5. Contractor Obligations

5.1 ROCIP Documents Shall be Provided to Subcontractor

Contractor shall furnish each bidding subcontractor, vendor, supplier, material dealer or other party a copy of this Exhibit, the DEN ROCIP Insurance Manual and the DEN ROCIP Safety Manual and shall incorporate the terms of this Exhibit in all contracts and agreements entered into for performance of any portion of the Work.

5.2 Timely Enrollment Required

Contractor shall enroll in the DEN ROCIP within five (5) business days following a request by DEN or the DEN ROCIP Administrator. Contractor shall notify each subcontractor of the process for enrolling in DEN ROCIP and confirm that enrollment is mandatory, but not automatic. Contractor shall assure that subcontractors of any tier shall not commence Work until verification of enrollment is confirmed by the DEN ROCIP Administrator by the issuance of a Certificate of Insurance to each individual Enrolled Party.

5.3 Compliance with Conditions

Contractor shall not violate any condition of the policies of insurance provided by DEN under the terms of this Exhibit, the DEN ROCIP Insurance Manual or the DEN ROCIP Safety Manual. All requirements imposed by the subject policies and to be performed by Contractor shall likewise be imposed on, assumed, and performed by each subcontractor of any tier.

5.4 Claims Cooperation

Contractor shall participate in claim reporting procedures. Contractor agrees to assist and cooperate in every manner possible in connection with the adjustment of all claims arising out of operations within the scope of the Work required by the Contract, and to cooperate with DEN's insurer(s) in all claims and demands which DEN's insurer(s) is called upon to adjust or to defend against. Contractor shall take all necessary action to assure that its subcontractors of any tier comply with any request for assistance and cooperation. This obligation includes, without limitation, providing light or modified duty for injured workers, appearing in mediation, arbitration, or court proceedings and/or participating in settlement meetings, as may be required.

5.5 Monthly Payroll Submission

All Enrolled Parties shall submit monthly payrolls and worker-hour reports to DEN and/or the DEN ROCIP Administrator via the DEN ROCIP Administrator's online reporting system as outlined in the DEN ROCIP Insurance Manual. The online reporting instructions will be provided to all Contractors at time of enrollment. Failure to submit these reports may result in funds being held or delayed from monthly progress payments. Payroll must be submitted online for each month, including zero (0) payroll, if applicable, until completion of the Work under each Contract and Subcontract. For subcontractors of any tier performing Work under multiple Subcontracts, a separate payroll report is required for each Subcontract under which Work is being performed.

5.6 Response to Information Requests

All insurance underwriting, payroll, rating or loss history information requested by DEN or the DEN ROCIP Administrator shall be provided by the Contractor within three (3) business days of request. Contractor agrees (and will require each subcontractor to agree) that DEN, DEN's insurers or its representative may audit the Contractor's records or records of subcontractors of any tier to confirm the accuracy of all insurance information provided including, without limitation, any such information that may have any effect on insurance resulting from changes in the Work. At all times during performance of the Contract and Subcontracts, the Contractor and subcontractors of any tier shall cooperate with DEN, the DEN ROCIP Administrator and DEN's insurers.

5.7 Responsibility for Safety

Notwithstanding the DEN ROCIP, the Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with the Work. Contractor is solely responsible, at no adjustment to the contract sum payable or contract time, for initiating, maintaining, and supervising all safety precautions and programs relating to the conduct of Work including, without limitation, any safety programs or procedures that are required by any applicable state or federal laws, rules or regulations, or under the terms of the DEN ROCIP Safety Manual.

5.8 Duty of Care

Nothing herein shall relieve the Enrolled Parties of their respective obligations to exercise due care in the performance of their duties in connection with the Work or to complete the Work in strict compliance with this Contract and subsequent subcontracts.

6. Notices and Costs

6.1 Limitations on DEN Provided Coverage and DEN Right to Purchase Other Coverage

DEN assumes no obligations to provide insurance other than that evidenced by the policies referred to in Section 3.8. DEN, however, reserves the right to furnish insurance coverage of various types and limits provided that such coverage shall not be less than that specified in Section 3.8 and the costs of such insurance shall be paid by DEN. Apart from the DEN ROCIP, DEN may at its option purchase additional insurance coverages that insure the Project that may not necessarily insure the Contractor or the subcontractors. Without limitation, examples of such coverage may include pollution liability, excess professional liability, and excess automobile liability insurance.

6.2 Contractors Responsible for Own Equipment

Contractor and subcontractors are solely responsible for loss or damage of all construction tools and other equipment whether owned, leased, rented, borrowed, or used on Work at the Project Site. If an individual Enrolled Party purchases insurance on their tools and equipment, such insurance shall contain a waiver of subrogation in favor of the City and County of Denver, its elected and appointed officials, agents, employees and volunteers and all other Enrolled Parties. If an individual Enrolled Party does not purchase such insurance, that Enrolled Party will hold harmless the City and County of Denver, its elected and appointed officials, agents, employees and volunteers and other Enrolled Parties for loss or damage to its tools and equipment.

6.3 No Release; No Waiver of Immunity

The provision of the DEN ROCIP shall in no way be interpreted as relieving Contractor or subcontractors of any tier of any responsibility or liability under the Contract Documents, the DEN ROCIP insurance policies or applicable laws including, without limitation, Contractor's and subcontractor's responsibilities relative to indemnification and their obligation to exercise due care in the performance of the Work and to complete the Work in strict compliance with the Contract Documents. The parties hereto understand and agree that the City and County of Denver, its elected and appointed officials, agents, employees and volunteers are relying on, and do not waive or intend to waive by any provisions of this agreement, the monetary limitations or any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, §§ 24-10-101 to 120, C.R.S., or otherwise available to DEN, its officers, officials and employees.

6.4 DEN Right to Withhold Payments

In addition to any other rights of withholding that DEN may have under the Contract Documents, DEN has the right to withhold any payments otherwise due to Contractor in the event of a failure by Contractor or any subcontractor to comply with the requirements of this Exhibit, the DEN ROCIP Insurance Manual or the DEN ROCIP Safety Manual. DEN may withhold from any payment owing to Contractor the costs of DEN ROCIP coverages if included in a request for payment. Such withholding by DEN shall not be deemed to be a default under the Contract. DEN shall withhold from Contractor the costs of DEN ROCIP coverages attributable to an increase in an Enrolled Party's total payroll for the Work over the amount reported to DEN and/or the DEN ROCIP Administrator at time of enrollment.

6.5 DEN Remedies

Without limitation upon any of DEN's other rights or remedies, any failure of an Enrolled Party to comply with any provision of this Exhibit, the DEN ROCIP Insurance Manual, or the DEN ROCIP Safety Manual shall be deemed a material breach of the Contract, thereby entitling DEN, at its option, upon notice to Contractor, to (1) suspend performance by Contractor and/or the offending subcontractor, without any adjustment to Contract Sum Payable or Contract Time, until there is full compliance, or (2) terminate this Contract for cause.

6.6 Off Site Storage

Unless otherwise provided in the Contract Documents, the property insurance provided by DEN shall not cover portions of the Work stored off the Site without written approval of DEN. Contractor shall be responsible for reporting such property or work if ownership has been transferred to DEN. If ownership rests with the Contractor, Contractor shall be responsible for obtaining insurance to protect its interests.

6.7 Partial Occupancy

Partial occupancy or use shall not commence until DEN insurer(s) providing Builders Risk and/or Property Insurance have consented to such partial occupancy or use by endorsement or otherwise. DEN and the Contractor shall take reasonable steps to obtain consent of the insurer(s) and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

6.8 DEN Right to Exclude Parties from the DEN ROCIP

DEN reserves the right to exclude any subcontractor from the DEN ROCIP, before or after enrollment by the subcontractor. If DEN elects to exclude a subcontractor from the DEN ROCIP, the Contractor will be responsible for ensuring the insurance coverages outlined in the Contractor’s Subcontract Agreement are provided to DEN or the DEN ROCIP Administrator before the subcontractor can begin or resume Work on the Project.

6.9 DEN’s Right to Modify or Discontinue DEN ROCIP Coverages

If DEN determines that modification or discontinuation of the DEN ROCIP is in the best interest of DEN, the Contractor and subcontractor will receive sixty (60) days advance written notice to secure and maintain such insurance as is required to provide replacement coverage comparable to that provided under the DEN ROCIP. Provided that the foregoing is not the result of any failure by the Contractor or any subcontractor to comply with the requirements of the Contract Documents, the DEN ROCP Insurance Manual or DEN ROCIP Safety Manual, the costs of such replacement insurance shall be deemed a cost of Work for which the Contractor shall be entitled to a Contract Adjustment, without any sum added thereto for Allowable Markup. The form, content, limits of liability, cost and the rating of the insurer(s) issuing such replacement coverage shall be subject to DEN’s prior written approval.

7. Definitions

Certificate of Insurance:	A document providing evidence of coverage for a particular insurance policy or policies. This will include certificates issued to Enrolled Parties evidencing the coverage afforded under the DEN ROCIP and certificates issued to DEN evidencing additional coverage “Provided by Enrolled Parties”
DEN:	City and County of Denver and Denver International Airport
Contract:	The written agreement between DEN and Contractor describing the Work, contract terms and conditions, or a portion thereof; also includes a written agreement between a Contractor and any subcontractor as well as between subcontractors and their subcontractors of any tier.
Contractor Insurance Cost:	The costs of ROCIP coverage are defined as the amount of Contractor’s and eligible Subcontractors’ of every tier reduction in insurance costs due to participation in the DEN ROCIP.

Rolling Owner Controlled Insurance Program (ROCIP): A coordinated insurance program providing certain coverage, as defined herein, for DEN, Contractor and Enrolled Subcontractors, along with their Eligible Employees, performing Work at the Project Site.

Eligible Employees: Employees of the Contractor and Enrolled Subcontractors who are not excluded from the ROCIP under the “Excluded Parties” definition.

Enrolled Parties: The Contractor and those subcontractors that have submitted all necessary enrollment information and been accepted into the ROCIP as evidenced by the issuance of a Certificate of Insurance.

Ineligible/Excluded Parties: Parties not covered by the ROCIP because of ineligibility or DEN explicit exclusion. No insurance coverage provided by DEN under the ROCIP shall extend to the activities or products of the following:

- Any person or organization that fabricates or manufactures products, materials or supplies away from a Project Site with no direct onsite installation responsibility

Exception: The ROCIP Insurer may agree to extend General Liability coverage only if the General Contractor has a written contract with the off-site fabricator or manufacturer to provide the pre-fabricated product. To consider extending coverage, the Insurer requires 30 days advance written notice to the ROCIP Administrator with details of the work/product and a copy of the contract between the General Contractor and the off-site fabricator or manufacturer. Approval must be obtained from the Insurer before enrolling in the ROCIP for General Liability coverage only.

- Scaffolding contractors (erecting and dismantling scopes of work only)
- Hazardous materials remediation, removal, or transportation companies and their consultants
- Architects, engineers, surveyors and their consultants
- Truckers, haulers, material dealers, vendors, suppliers, and others who merely transport, pick up, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from a Project Site including companies providing supplemental services
- Contractors, subcontractors and subconsultants who do not work at a Project Site
- Employees of an Enrolled Party who either (i) do not work on-site or (ii) occasionally visit a Project Site to make deliveries, pick-up supplies or personnel, to perform supervisory or progress inspections, or for any other reason

- Temporary labor employees (individuals working directly for the Contractor and not procured through a third party such as a Professional Employer Organization)

Exception: The ROCIP Insurer typically will accept including employees working for a contractor, or employed by temporary staffing agencies or professional employer organizations, as long as those employer-entities are enrolled as subcontractors to supply supplemental workforce.

Insured: (liability policies)	DEN, Contractor and Enrolled Parties and their Eligible Employees and any other party named in the insurance policies.
Insurers:	Those insurance companies providing the DEN ROCIP coverage. The insurers will be identified on the issued Certificate of Insurance and in the DEN ROCIP Insurance Manual.
Net Bid:	Contractor bids with insurance costs removed because of the obligation of any Enrolled Party to delete insurance costs for coverage provided by the ROCIP from its bid and all change orders. Net bids are subject to verification by the Administrator through the providing of contractors' rate and declaration pages from their Insurance policies.
ROCIP Administrator:	The DEN ROCIP Administrator will be identified in the DEN ROCIP Insurance Manual.
ROCIP Insurance Manual:	A reference document provided to Contractor and subcontractors of all tiers, which summarizes the terms and provisions of the DEN ROCIP and provides information about requirements and compliance.
ROCIP Safety Manual:	A reference document provided to Contractor and subcontractors of all tiers which contains workplace safety requirements of all Enrolled Parties.
Off Site Work:	Work performed away from the Project Site.
Payroll:	For purposes of the ROCIP only, refers to Unburdened Straight Time Payroll per Workers Compensation Class Code.
Policy Owner:	City and County of Denver and Denver International Airport
Project:	The Project as defined in the contract documents and as described in the Declarations of the DEN ROCIP insurance policies.

Project Site: Means those areas designated in writing by DEN in a Contract document for performance of the Work and such additional areas as may be designated in writing by DEN for Contractors' use in performance of the Work. Subject to the ROCIP Insurer(s) written approval, the term "Project Site" shall also include: (1) field office sites, (2) property used for bonded storage of material for the Project approved by DEN, (3) staging areas dedicated to the Project, and (4) areas where activities incidental to the Project are being performed by Contractor or subcontractors covered by the DEN ROCIP Worker's Compensation policy (if included), but excluding any permanent locations of any Enrolled Party.

Items 1 through 4 above must be approved by the ROCIP Insurer and listed on the DEN ROCIP insurance policies.

Subcontract: The written agreement between Contractor and subcontractor, or between subcontractor and a lower tier subcontractor, describing the Work, subcontract terms and conditions, or a portion thereof.

Subcontractor: Includes those persons, firms, joint venture entities, corporations, or other parties that enter into a Subcontract with Contractor to perform Work at the Project Site and any of these subcontractor's lower-tier subcontractors.

Work: Construction build operations, as fully described in the Contract and Subcontract, performed at the Project Site.

IX. ATTACHMENT 4, DIVERSITY AND INCLUSIVENESS IN CITY SOLICITATIONS

For the City or the City Agency to consider a bid/Bid, Bidders must complete the on-line Diversity and Inclusiveness in City Solicitations Form – then **save an electronic copy of the completed form and include the electronic copy as part of its Bid. A Bid or response to a solicitation by a Bidder that does not include this completed form shall be deemed non-responsive.**

Click on the following link to access the on-line form:

<https://us.openforms.com/Form/57f3a8ea-39b7-4115-be17-1770f38d3cf6>

Using the form found in link above, please state whether you have a Diversity and Inclusiveness program for employment and retention, procurement and supply chain activities or customer service, and provide the additional information requested on the form. The information provided on the Diversity and Inclusiveness in City Solicitations Form will provide an opportunity for City Bidders to describe their own diversity and inclusiveness practices. Bidders are not expected to conduct intrusive examinations of their employees, managers, or business partners in order to describe diversity and inclusiveness measures. Rather, the City simply seeks a description of the Bidder's current practices, if any. Diversity and Inclusiveness information provided by City Bidders in response to City solicitations for services or goods will be collated, analyzed, and made available in reports consistent with City Executive Order No. 101. However, no personally identifiable information provided by or obtained from Bidders will be in such reports.

X. ATTACHMENT 5, SAMPLE AGREEMENT

SAMPLE AGREEMENT

The Sample Agreement and required Federal provisions are contained in the pages immediately following this page. The Contract will include other exhibits in addition to the Federal provisions.

These pages are not included in the page numbering of this document.

Notice to Bidders: City Required Contract Provisions

The following contract provisions are required in every contract issued by the Department of Aviation. The language of each clause is drafted in accordance with Federal, State, and City law and policy and are not subject to modification. Accordingly, Bidders should carefully review this Sample Agreement provided with the Invitation for Bids, including these required provisions, in preparation of their Bids.

Standard Federal Provisions contained in the Contract, Exhibits or Appendix

Minority/Women Owned Business Enterprise

MWBE Prompt Pay and City Prompt Pay

Prevailing Wage Ordinance

City Minimum Wage provisions; worker retention provision

Insurance Requirements

Defense and Indemnification (provide comments on provisions firm **cannot accept with Bid**)

Disputes/Dispute Resolution (see D.R.M.C. § 5-17 & DEN Rules and Regulations Part 250)

Compliance with All Laws and Regulations/with Patent, Trademark and Copyright Laws

Compliance with all Executive Orders including drugs/alcohol/tobacco

Governing Law and Venue

Bond Ordinances

Force Majeure

Taxes and Costs

Environmental Requirements

Records Retention and Other Standard City Provisions, including but not limited to:

Diversity and Inclusiveness

No Discrimination in Employment

Advertising and Public Disclosure

Colorado Open Records Act

Examination of Records and Audits, including Federal and City Auditor provisions

Conflict of Interest

Sensitive Security Information, DEN Security, Badging, and other Security Provisions

CONTRACT FOR CONSTRUCTION

THIS CONTRACT FOR CONSTRUCTION (“Contract”) is made and entered into as of the date stated on the City’s signature page below (the **“Effective Date”**) by and between the **CITY AND COUNTY OF DENVER**, a municipal corporation of the State of Colorado acting on behalf of its Department of Aviation (the **“City”**), and **VENDOR NAME**, a Jurisdiction from the SOS website corporation and authorized to do business in the State of Colorado (**“Contractor”**) (collectively the **“Parties”**).

W I T N E S S E T H

WHEREAS, the City, for at least three (3) consecutive days, advertised that proposals would be received for furnishing all labor, tools, supplies, equipment, materials and everything necessary and required for the construction and installation of the work under Invitation for Bid No. 202475736-00, Level 5 Domes & Ramps Adjustments at Denver International Airport (**“DEN”**); and

WHEREAS, a proposal in response to said advertisement have been received by the Chief Executive Officer of DEN (the **“CEO”**), who has recommended that a contract for the work be made and entered into with Contractor, which was the lowest, responsive, qualified bidder; and

WHEREAS, Contractor is qualified, willing, and able to perform the work in accordance with its proposal and the Contract Documents defined below;

NOW, THEREFORE, for and in consideration of the compensation to be paid by the City to Contractor and the other terms and conditions of this Contract, the Parties agree as follows:

1. CONTRACT DOCUMENTS:

It is agreed by the Parties that the instruments, drawings, and documents described below and whether attached to and bound with this Contract or not (the **“Contract Documents”**), are incorporated into the Contract by this reference, and are as fully a part of this Contract as if they were set out here verbatim and in full:

- Contract
- Notice to Proceed
- Form of Final Receipt
- Building Information Modeling (**“BIM”**) if applicable
- Change Directives
- Change Orders
- Exhibit A Federal Appendices
- Exhibit B City Equal Employment Opportunity Provisions
- Exhibit C Insurance Requirements
- Exhibit D Prevailing Wage Schedules

- Exhibit E Special Conditions
- Exhibit F Standard Specifications for Construction General Contract Conditions (2011 Edition) (the “Yellow Book”) (“General Conditions”) (Table of Contents attached as Exhibit F)
- Exhibit G Performance Bond
- Exhibit H Payment Bond
- Exhibit I Technical Specifications
- Exhibit J Contract Drawings
- Exhibit K Invitation for Bids and Contractor’s Response to Invitation for Bids

In the event of an irreconcilable conflict between a provision of Section 1 through 32 of this Contract document and any other provisions of the Contract Documents such that it is impossible to give effect to both, the order of precedence to determine which document shall control to resolve such conflict is as follows, in descending order:

1. Exhibit A Federal Appendices
2. Contract
3. Change Directives
4. Change Orders
5. Exhibit B City Equal Employment Opportunity Provisions
6. Exhibit E Special Conditions
7. Exhibit F Standard Specifications for Construction General Contract Conditions (2011 Edition) (the “**Yellow Book**”) (“**General Conditions**”) (Table of Contents attached as Exhibit F)
8. Exhibit C Insurance Requirements
9. Exhibit D Prevailing Wage Schedules
10. Exhibit I Technical Specifications
11. Exhibit J Contract Drawings
12. Exhibit K Invitation for Bids and Contractor’s Response to Invitation for Bids
13. Exhibit G Performance Bond
14. Exhibit H Payment Bond
15. Notice to Proceed
16. Form of Final Receipt
17. Building Information Modeling (“**BIM**”) if applicable

The remaining order of precedence is established in General Conditions Title 4.

2. SCOPE OF WORK:

Contractor shall furnish all labor and tools, supplies, equipment, superintendence, materials, and everything necessary for and required to do, perform, and complete all of the work described, drawn, set forth, shown, and included in the Contract Documents (the “**Work**”).

3. TERM OF CONTRACT:

The Senior Vice President, Design, Engineering and Construction (the “**SVP**”) will issue a written notice to proceed to Contractor (the “**Notice to Proceed**”), and Contractor shall begin performing the Work required under this Contract within ten (10) days of such Notice to Proceed (the “**Commencement Date**”). Contractor shall fully complete the Work in its entirety within 186 consecutive calendar days from the date of the Notice to Proceed (“**Contract Time**”). Contractor is not authorized to commence work prior to its receipt of the Notice to Proceed.

4. TERMS OF PAYMENT:

The City agrees to pay Contractor for the performance and completion of all of the Work as required by the Contract Documents, and Contractor agrees to accept as its full and only compensation therefor, a total amount of **Contract Amount Dollars and Amount Cents (\$Click here to enter text.00)** (the “**Maximum Contract Amount**”). In no event will the City’s liability exceed the Maximum Contract Amount, as adjusted by duly authorized Change Orders in accordance with this Contract. The Parties specifically agree that any performance by Contractor hereunder shall not subject the City to any cost, charge, or fee not specified above.

5. VERIFIED STATEMENT OF CLAIMS:

Colorado Revised Statutes § 38-26-107 (“**C.R.S.**”) requires that, in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to Contractor sufficient funds to insure the payment of any such claims. Should the City be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, Contractor agrees to pay to the City its costs and a reasonable attorney’s fee incurred in any such lawsuit. Because the City Attorney Staff does not bill the City for legal services on an hourly basis, Contractor agrees a reasonable fee shall be computed at the rate of two hundred dollars and no cents (\$200.00) per hour of City Attorney time.

6. DISPUTES:

All disputes arising under or related to this Contract shall be resolved by administrative hearing under the procedures described in **Exhibit F**, as modified by **Exhibit E**, if any, and the Denver Revised Municipal Code § 5-17 (“**D.R.M.C.**”) and all related rules and procedures, including but not limited to DEN Rule 250. The determination resulting from said administrative hearing shall be final, subject only to Contractor's right to appeal the determination under Colorado Rule of Civil Procedure, Rule 106.

7. DEFENSE AND INDEMNIFICATION:

A. To the fullest extent permitted by law, Contractor hereby agrees to defend, indemnify, reimburse and hold harmless City, its appointed and elected officials, agents and employees for, from and against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or related to the work performed under this Contract that are due to the negligence or fault of the Contractor or the Contractor’s agents,

representatives, subcontractors, or suppliers (“**Claims**”). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.

B. Contractor’s duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Contractor is not named as a Defendant.

C. Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation, including but not limited to time expended by the City Attorney Staff, whose costs shall be computed at the rate specified in Section 5. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City’s exclusive remedy.

D. Insurance coverage requirements specified in this Contract shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City’s protection.

E. This defense and indemnification obligation shall survive the expiration or termination of this Contract.

8. WAIVER OF C.R.S. § 13-20-801, *ET SEQ.*:

Notwithstanding any other provision of this Contract, Contractor specifically waives all of the provisions of C.R.S. §§ 13-20-801 *et seq.* as they may relate to Contractor’s performance under this Contract.

9. LIQUIDATED DAMAGES:

If Contractor fails to achieve Substantial Completion of the Work within the Contract Time or fails to substantially complete the Work described in the Scope of Work within the time set forth in the Special Conditions, the City will suffer substantial damages, which damages would be difficult to accurately determine. The Parties hereto have considered the possible elements of damages and have agreed that the amount of liquidated damages for Contractor's failure to substantially complete the work within the Contract Time or to substantially complete the work described in Milestone Areas within the time set forth in the Special Conditions shall be as provided in the Special Conditions. If Contractor shall fail to pay such liquidated damages promptly upon demand therefor, the Surety on its Performance Bond and Payment Bond shall pay such damages. Also, the City may withhold all, or any part of, such liquidated damages from any payment due to Contractor. Additional provisions relating to liquidated damages are set forth in the Construction Contract General Conditions and Special Conditions.

10. INSURANCE REQUIREMENTS:

A. Contractor shall obtain and keep in force all of the minimum insurance coverage forms and amounts set forth in *Exhibit C* (“**Insurance Requirements**”) during the entire Term of this Agreement, including any extensions of the Agreement or other extended period stipulations stated in *Exhibit C*. All certificates of insurance must be received and accepted by the City before any airport access or work commences.

B. Contractor shall ensure and document that all subcontractors performing services or providing goods hereunder procure and maintain insurance coverage that is appropriate to the primary business risks for their respective scopes of performance. At minimum, such insurance must conform to all applicable requirements of DEN Rules and Regulations Part 230 and all other applicable laws and regulations.

C. The City in no way warrants or represents the minimum limits contained herein are sufficient to protect Contractor from liabilities arising out of the performance of the terms and conditions of this Contract by Contractor, its agents, representatives, employees, or subcontractors. Contractor shall assess its own risks and maintain higher limits and/or broader coverage as it deems appropriate and/or prudent. Contractor is not relieved of any liability or other obligations assumed or undertaken pursuant to this Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration, or types.

D. In no event shall the City be liable for any of the following: (i) business interruption or other consequential damages sustained by Contractor; (ii) damage, theft, or destruction of Contractor's inventory, or property of any kind; or (iii) damage, theft, or destruction of an automobile, whether or not insured.

E. The Parties understand and agree that the City, its elected and appointed officials, employees, agents and volunteers are relying on, and do not waive or intend to waive by any provisions of this Contract, the monetary limitations and any other rights, immunities and protections provided by the Colorado Governmental Immunity Act, C.R.S. §§ 24-10-101, *et seq.*, or otherwise available to the City, its elected and appointed officials, employees, agents and volunteers.

11. CONTRACT BINDING:

It is agreed that this Contract shall be binding on and inure to the benefit of the Parties hereto, their heirs, executors, administrators, assigns, and successors.

12. SEVERABILITY:

If any part, portion, or provision of this Contract shall be found or declared null, void, or unenforceable for any reason whatsoever by any court of competent jurisdiction or any governmental agency having authority thereover, only such part, portion, or provision shall be affected thereby and all other parts, portions, and provisions of this Contract shall remain in full force and effect.

13. ASSIGNMENT:

Contractor shall not assign, pledge or transfer its duties, obligations, and rights under this Contract, in whole or in part, without first obtaining the written consent of the CEO or their authorized representative. Any attempt by Contractor to assign or transfer its rights hereunder without such prior written consent shall, at the option of the CEO or their authorized representative, automatically terminate this Contract and all rights of Contractor hereunder.

14. APPROPRIATIONS:

Payment will be in accordance with the provisions of the Contract Documents, including Title 9 of the General Conditions, and will be made solely and exclusively from funds appropriated or otherwise lawfully made available for the purposes of this Contract from the Airport System Funds. The City has no obligation to make payments from any other fund or source or to make additional appropriations or allocations to such fund to satisfy such costs or other obligations.

15. APPROVALS:

In the event this Contract calls for the payment by the City of Five Million Dollars and no cents (\$5,000,000.00) or more, approval by the Denver City Council, acting by Resolution in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and performance of this Contract.

16. JOINT VENTURE:

If Contractor is a Joint Venture, the partners to the Joint Venture shall be jointly and severally liable to the City for the performance of all duties and obligations of Contractor which are set forth in the Contract.

17. NO DISCRIMINATION IN EMPLOYMENT:

In connection with the performance of work under the Agreement, the Contractor may not refuse to hire, discharge, promote, demote, or discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, ethnicity, citizenship, immigration status, gender, age, sexual orientation, gender identity, gender expression, marital status, source of income, military status, protective hairstyle, or disability. The Contractor shall insert the foregoing provision in all subcontracts.

18. COORDINATION OF SERVICES:

Contractor agrees to perform its work under this Contract in accordance with the operational requirements of DEN, and all work and movement of personnel or equipment on areas included within the DEN site shall be subject to the regulations and restrictions established by the City or its authorized agents.

19. COMPLIANCE WITH ALL LAWS AND REGULATIONS:

A. Contractor and its subcontractor(s) shall perform all work under this Contract in

compliance with all existing and future applicable laws, rules, regulations, and codes of the United States and the State of Colorado and with the City Charter, ordinances, Executive Orders, and rules and regulations of the City.

B. Contractor shall perform all work in compliance with Executive Order 123 regarding Sustainability as may be directed by the City, including the requirement that all new City buildings and major renovations will be certified to the applicable LEED Gold Certification, with the goal of achieving LEED Platinum where economically feasible. Contractor also shall comply with all applicable DEN design and construction standards, including the DEN Design Standards Manuals, which are incorporated herein by reference. Current versions can be found at: <https://business.flydenver.com/bizops/bizRequirements.asp>.

20. PREVAILING WAGE REQUIREMENTS:

A. Contractor shall comply with, and agrees to be bound by, all requirements, conditions and determinations of the City regarding the Payment of Prevailing Wages Ordinance, D.R.M.C. §§20-76 through 20-79, including, but not limited to, the requirement that every covered worker working on a City-owned or leased building or on City-owned land shall be paid no less than the prevailing wages and fringe benefits in effect on the date the bid or request for proposal was advertised. In the event a request for bids, or a request for proposal, was not advertised, Contractor shall pay every covered worker no less than the prevailing wages and fringe benefits in effect on the date funds for the Contract were encumbered.

Date bid or proposal issuance was advertised November 6, 2024.

B. Prevailing wage and fringe rates will adjust on the yearly anniversary of the actual date of bid or proposal issuance, if applicable, or the date of the written encumbrance if no bid/proposal issuance date is applicable. Unless expressly provided for in this Contract, Contractor will receive no additional compensation for increases in prevailing wages or fringe rates.

C. Contractor shall provide the Auditor of the City and County of Denver with a list of all subcontractors providing any services under the Contract.

D. Contractor shall provide the Auditor with electronically-certified payroll records for all covered workers employed under the Contract in a manner specified by the Auditor.

E. Contractor shall prominently post at the work site the current prevailing wage and fringe rates. The posting must inform workers that any complaints regarding the payment of prevailing wages or fringe benefits may be submitted to the Denver Auditor by calling 720-913-5000 or emailing auditor@denvergov.org.

F. If Contractor fails to pay workers as required by the Prevailing Wage Ordinance, Contractor will not be paid until documentation of payment satisfactory to the Auditor has been provided. The Auditor may enforce the Prevailing Wage Ordinance in a manner provided by law, including the Prevailing Wage Ordinance. The City also may, by written notice, suspend or terminate work if Contractor fails to pay required wages and fringe rates.

21. CITY PROMPT PAYMENT:

A. The City will make monthly progress payments to the Contractor for all services performed under this Contract based upon the Contractor's monthly invoices or shall make payments as otherwise provided in this Contract. The City's Prompt Payment Ordinance, D.R.M.C. §§ 20-107 to 20-118, applies to invoicing and payment under this Contract.

B. Final Payment to the Contractor shall not be made until after the Project is accepted, and all certificates of completion, record drawings and reproducible copies, and other deliverables are delivered to the City, and the Contract is otherwise fully performed by the Contractor. The City may, at the discretion of the SVP, withhold reasonable amounts from billing and the entirety of the final payment until all such requirements are performed to the satisfaction of the SVP.

C. Prompt Pay of MWBE Subcontractors. For contracts of one million dollars (\$1,000,000.00) and over to which D.R.M.C. § 28-72 applies, the Contractor is required to comply with the Prompt Payment provisions under D.R.M.C. § 28-72, with regard to payments by the Contractor to MWBE subcontractors. If D.R.M.C. § 28-72 applies, Contractor shall make payment by no later than thirty-five (35) days from receipt by the Contractor of the subcontractor's invoice.

22. OWNERSHIP AND DELIVERABLES:

Upon payment to Contractor, all records, data, deliverables, and any other work product prepared by Contractor or any custom development work performed by Contractor for the purpose of performing this Contract on or before the day of the payment, whether a periodic or final payment, shall become the sole property of the City. Upon request by the City, or based on any schedule agreed to by Contractor and the City, Contractor shall provide the City with copies of the data/files that have been uploaded to any database maintained by or on behalf of Contractor or otherwise saved or maintained by Contractor as part of the services provided to the City under this Contract. All such data/files shall be provided to the City electronically in a format agreed to by the Parties. Contractor also agrees to allow the City to review any of the procedures Contractor uses in performing any work or other obligations under this Contract, and to make available for inspection any and all notes, documents, materials, and devices used in the preparation for or performance of any of the scope of work, for up to six (6) years after termination of this Contract. Upon written request from the City, Contractor shall deliver any information requested pursuant to this Section within ten (10) business days in the event a schedule or otherwise agreed-upon timeframe does not exist.

23. COLORADO OPEN RECORDS ACT:

A. Contractor acknowledges that the City is subject to the provisions of the Colorado Open Records Act ("CORA"), C.R.S. §§ 24-72-201 *et seq.*, and Contractor agrees that it will fully cooperate with the City in the event of a request or lawsuit arising under such act for the disclosure of any materials or information which Contractor asserts is confidential or otherwise exempt from disclosure. Any other provision of this Contract notwithstanding, all materials, records, and information provided by Contractor to the City shall be considered confidential by the City only

to the extent provided in CORA, and Contractor agrees that any disclosure of information by the City consistent with the provisions of CORA shall result in no liability of the City.

B. In the event of a request to the City for disclosure of such information, time and circumstances permitting, the City will make a good faith effort to advise Contractor of such request in order to give Contractor the opportunity to object to the disclosure of any material Contractor may consider confidential, proprietary, or otherwise exempt from disclosure. In the event Contractor objects to disclosure, the City, in its sole and absolute discretion, may file an application to the Denver District Court for a determination of whether disclosure is required or exempted. In the event a lawsuit to compel disclosure is filed, the City may tender all such material to the court for judicial determination of the issue of disclosure. In both situations, Contractor agrees it will either waive any claim of privilege or confidentiality or intervene in such legal process to protect materials Contractor does not wish disclosed. Contractor agrees to defend, indemnify, and hold harmless the City, its officers, agents, and employees from any claim, damages, expense, loss, or costs arising out of Contractor's objection to disclosure, including prompt reimbursement to the City of all reasonable attorney's fees, costs, and damages the City may incur directly or may be ordered to pay by such court, including but not limited to time expended by the City Attorney Staff, whose costs shall be computed at the rate specified in Section 5.

24. EXAMINATION OF RECORDS AND AUDITS:

A. Any authorized agent of the City, including the City Auditor or his or her representative, has the right to access and the right to examine, copy and retain copies, at City's election in paper or electronic form, any pertinent books, documents, papers and records related to Consultant's performance pursuant to this Agreement, provision of any goods or services to the City, and any other transactions related to this Agreement. Consultant shall cooperate with City representatives and City representatives shall be granted access to the foregoing documents and information during reasonable business hours and until the latter of three (3) years after the final payment under the Agreement or expiration of the applicable statute of limitations. When conducting an audit of this Agreement, the City Auditor shall be subject to government auditing standards issued by the United States Government Accountability Office by the Comptroller General of the United States, including with respect to disclosure of information acquired during the course of an audit. No examination of records and audit pursuant to this paragraph shall require Parties to make disclosures in violation of state or federal privacy laws. Parties shall at all times comply with D.R.M.C. 20-276.

B. Additionally, Contractor agrees until the expiration of six (6) years after the final payment under this Contract, any duly authorized representative of the City, including the CEO or their representative, shall have the right to examine any pertinent books, documents, papers and records of Contractor related to Contractor's performance of this Contract, including communications or correspondence related to Contractor's performance, without regard to whether the work was paid for in whole or in part with federal funds or was otherwise related to a federal grant program.

C. In the event the City receives federal funds to be used toward the services performed under this Contract, the Federal Aviation Administration (“**FAA**”), the Comptroller General of the United States and any other duly authorized representatives shall have access to any books, documents, papers and records of Contractor which are directly pertinent to a specific grant program for the purpose of making audit, examination, excerpts and transcriptions. Contractor further agrees that such records will contain information concerning the hours and specific services performed along with the applicable federal project number.

25. COMPLIANCE WITH DENVER WAGE LAWS:

To the extent applicable to the Contractor’s work hereunder, the Contractor shall comply with, and agrees to be bound by, all rules, regulations, requirements, conditions, and City determinations regarding the City’s Minimum Wage and Civil Wage Theft Ordinances, Sections 58-1 through 58-26 D.R.M.C., including, but not limited to, the requirement that every covered worker shall be paid all earned wages under applicable state, federal, and city law in accordance with the foregoing D.R.M.C. Sections. By executing this Agreement, the Contractor expressly acknowledges that the Contractor is aware of the requirements of the City’s Minimum Wage and Civil Wage Theft Ordinances and that any failure by the Contractor, or any other individual or entity acting subject to this Agreement, to strictly comply with the foregoing D.R.M.C. Sections shall result in the penalties and other remedies authorized therein.

26. COMPLIANCE WITH MINORITY/WOMEN BUSINESS ENTERPRISE REQUIREMENTS:

A. This Agreement is subject to Article III, Divisions 1 and 3 of Chapter 28, D.R.M.C., designated as §§ 28-31 to 28-40 and 28-51 to 28-90 (the “**DSBO Ordinance**”); and any Rules and Regulations promulgated pursuant thereto. The contract goal for MWBE participation established for this Agreement by the Division of Small Business Opportunity (“**DSBO**”) is 20%.

B. Under § 28-68, D.R.M.C., the Contractor has an ongoing, affirmative obligation to maintain for the duration of this Agreement, at a minimum, compliance with the MWBE participation upon which this Agreement was awarded, unless the City initiates a material modification to the scope of work affecting MWBEs performing on this Agreement through

change order, contract amendment, force account, or other modification under § 28-70, D.R.M.C. The Contractor acknowledges that:

(i) If directed by DSBO, the Contractor is required to develop and comply with the Equity, Diversity and Inclusion Plan (“EDI Plan”) attached as Exhibit F and as it may be modified in the future by DSBO. Unless a separate Utilization Plan is required in accordance with § 28-62(b), D.R.M.C, the EDI Plan shall constitute the Utilization Plan required by § 28-62(b). Along with the EDI Plan and Utilization Plan requirements, the Contractor must establish and maintain records and submit regular reports, as directed by DSBO, which will allow the City to assess progress in complying with the EDI Plan and/or Utilization Plan and achieving the MWBE participation goal. The EDI Plan and Utilization Plan is subject to modification by DSBO.

(ii) If change orders or any other contract modifications are issued under the Agreement, the Contractor shall have a continuing obligation to promptly inform DSBO in writing of any agreed upon increase or decrease in the scope of work of such contract, upon any of the bases under § 28-70, D.R.M.C., regardless of whether such increase or decrease in scope of work has been reduced to writing at the time of notification of the change by the City.

(iii) If change orders or other amendments or modifications are issued under the contract that include an increase in the scope of work of this Agreement, whether by amendment, change order, force account or otherwise, which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by an MWBE at the time of contract award, such change orders or contract modification shall be promptly submitted to DSBO for notification purposes.

(iv) Those amendments, change orders, force accounts or other contract modifications that involve a changed scope of work that cannot be performed by existing project subcontractors are subject to the original contract goal. The Contractor shall satisfy the goal with respect to such changed scope of work by soliciting new MWBEs in accordance with § 28-70, D.R.M.C. The Contractor must also satisfy the requirements under §§ 28-60 and 28-73, D.R.M.C., with regard to changes in scope or participation. The Contractor shall supply to DSBO all required documentation under §§ 28-60, 28-70, and 28-73, D.R.M.C., with respect to the modified dollar value or work under the contract.

(v) If applicable, for contracts of one million dollars (\$1,000,000.00) and over, the Contractor is required to comply with § 28-72, D.R.M.C. regarding prompt payment to MWBEs. Payment to MWBE subcontractors shall be made by no later than thirty-five (35) days after receipt of the MWBE subcontractor’s invoice.

(vi) Termination or substitution of an MWBE subcontractor requires compliance with § 28-73, D.R.M.C.

(vii) Failure to comply with these provisions may subject the Contractor to sanctions set forth in § 28-76 of the DSBO Ordinance.

(viii) Should any questions arise regarding specific circumstances, the Contractor should consult the DSBO Ordinance or may contact the Project's designated DSBO representative at (720) 913-1999.

27. SENSITIVE SECURITY INFORMATION:

Contractor acknowledges that, in the course of performing its work under this Contract, Contractor may be given access to Sensitive Security Information ("SSI"), as material is described in the Code of Federal Regulations, 49 C.F.R. Part 1520. Contractor specifically agrees to comply with all requirements of the applicable federal regulations, including but not limited to, 49 C.F.R. Parts 15 and 1520. Contractor understands any questions it may have regarding its obligations with respect to SSI must be referred to DEN's Security Office.

28. DEN SECURITY:

A. Contractor, its officers, authorized officials, employees, agents, subcontractors, and those under its control, shall comply with safety, operational, or security measures required of Contractor or the City by the FAA or TSA. If Contractor, its officers, authorized officials, employees, agents, subcontractors or those under its control, fail or refuse to comply with said measures and such non-compliance results in a monetary penalty being assessed against the City, then, in addition to any other remedies available to the City, Contractor shall fully reimburse the City any fines or penalties levied against the City, and any attorney fees or related costs paid by the City as a result of any such violation. Contractor must pay this amount within fifteen (15) days from the date of the invoice or written notice. Any fines and fees assessed by the FAA or TSA against the City due to the actions of Contractor and/or its agents will be deducted directly from the invoice for that billing period.

B. Contractor is responsible for compliance with Airport Security regulations and 49 C.F.R. Parts 1542 (Airport Security) and 14 C.R.F. Parts 139 (Airport Certification and Operations). Any and all violations pertaining to Parts 1542 and 139 resulting in a fine will be passed on to and borne by Contractor. The fee/fine will be deducted from the invoice at time of billing.

29. FEDERAL RIGHTS:

A. This Contract is subject and subordinate to the terms, reservations, restrictions and conditions of any existing or future contracts between the City and the United States, the execution of which has been or may be required as a condition precedent to the transfer of federal rights or property to the City for airport purposes, and the expenditure of federal funds for the extension, expansion or development of the Airport System.

(i) General Civil Rights: Contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from

participating in any activity conducted with or benefiting from Federal Assistance. This provision binds Contractor and subcontractors from the bid solicitation period through the completion of the Contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

(ii) Federal Fair Labor Standards Act: This Contract incorporates by reference the provisions of 29 C.F.R. Part 201, the Federal Fair Labor Standards Act (“**FLSA**”), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part-time workers. Contractor agrees to incorporate by reference the provisions of FLSA in all contracts and subcontracts resulting from this Contract. Contractor has full responsibility to monitor compliance to the referenced regulation. Contractor must address any claims or disputes arising from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

(iii) Occupational Safety and Health Act: This Contract incorporates by reference the requirements of 29 C.F.R. Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. Contractor retains full responsibility to monitor its compliance and any subcontractor’s compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 C.F.R. Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

(iv) Contractor covenants it will include the provisions of this section in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Federal Acts, Regulations and directives issued pursuant thereto. Contractor covenants it will take action with respect to any subcontract or procurement as the City or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, Contractor may request the City to enter into any litigation to protect the interests of the City. In addition, Contractor may request the United States to enter into the litigation to protect the interests of the United States.

30. CITY EXECUTION OF CONTRACT:

This Contract is expressly subject to, and shall become effective upon, the execution of all signatories of the City and, if required, the approval of Denver City Council. This Contract may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same.

31. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS:

The Contract, and any other documents requiring a signature hereunder, may be signed electronically by the City and/or Contractor in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Contract 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 Contract 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.

[SIGNATURE PAGES FOLLOW]

SAMPLE

XI. ATTACHMENT 6, PERFORMANCE AND PAYMENT BOND**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____ [Bidder name], a corporation organized under the laws of the State of _____ [Bidder state], hereinafter referred to as the "Contractor" and _____ [Bond issuer], a corporation organized under the laws of the State of _____ [Bond company state], and authorized to transact business in the State of Colorado, hereinafter referred to as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "CITY", in the penal sum of _____ [Bid amount text] Dollars (\$ _____), lawful money of the United States of America, for the payment of which sum the Contractor and Surety bind themselves and their heirs, executors, administrators, successors and assigns, jointly and severally by these presents.

WHEREAS, the above Contractor has, as of the date of execution listed on the contract signature page, entered into a written contract with the City for furnishing all labor, materials, equipment, tools, superintendence, and other facilities and accessories for the construction of 202475736, Level 5 Dome and Ramps, Denver International Airport, in accordance with the Technical Specifications, Contract Drawings and all other Contract Documents therefor which are incorporated herein by reference and made a part hereof, and are herein referred to as the Contract.

NOW, THEREFORE, the condition of this performance bond is such that if the Contractor:

1. Promptly and faithfully observes, abides by, and performs each and every covenant, condition, and part of said Contract, including, but not limited to, its warranty provisions, in the time and manner prescribed in the Contract, and
2. Pays the City all losses, damages (liquidated or actual, including, but not limited to, damages caused by delays in the performance of the Contract), expenses, costs and attorneys' fees, that the City sustains resulting from any breach or default by the Contractor under the Contract, then this bond is void; otherwise, it shall remain in full force and effect.

IN ADDITION, if said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, or any other supplies used or consumed by said Contractor or its subcontractors in its performance of the work contracted to be done or fails to pay any person who supplies rental machinery, tools, or equipment, all amounts due as the result of the use of such machinery, tools, or equipment in the prosecution of the work, the Surety shall pay the same in an amount not exceeding the amount of this obligation, together with interest as provided by law.

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates, and agrees that any and all changes in the Contract or compliance or noncompliance with the formalities in the Contract for making such changes shall not affect the Surety's obligations under this bond and the Surety hereby waives notice of any such changes.

(End of Page)

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this ____
day of _____, _____.

CONTRACTOR

By: _____
President

SURETY

By: _____
Attorney-in-Fact

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond.)

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____
[Bidder name], a corporation organized under the laws of the State of _____ [Bidder state],
hereinafter referred to as the "Contractor" and _____ [Bonding company
name], a corporation organized under the laws of the State of _____ [Bonding company
state], and authorized to transact business in the State of Colorado, hereinafter referred to as Surety, are
held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of
Colorado, hereinafter referred to as the "CITY", in the penal sum of _____
[Bid amount text] Dollars
(\$ _____), lawful money of the United States of America, for the payment of which sum
the Contractor and Surety bind themselves and their heirs, executors, administrators, successors and
assigns, jointly and severally, firmly by these presents.

WHEREAS, the above Contractor has entered into a written contract with the City for furnishing all labor,
materials, tools, superintendence, and other facilities and accessories for the construction of 202475736.
_____ Denver International Airport, in accordance with the Technical
Specifications, Contract Drawings and all other Contract Documents therefor which are incorporated
herein by reference and made a part hereof, and are herein referred to as the Contract.

NOW, THEREFORE, the condition of this payment bond obligation is such that if the Contractor shall at all
times promptly make payments of all amounts lawfully due to all persons supplying or furnishing it or its
subcontractors with labor and materials, rental machinery, tools, or equipment, used or performed in the
prosecution of work provided for in the above Contract and shall indemnify and save harmless the City to
the extent of any and all payments in connection with the carrying out of such Contract which the City
may be required to make under the law, then this obligation shall be null and void, otherwise, it shall
remain in full force and effect;

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates, and agrees that any and
all changes in the Contract, or compliance or noncompliance with the formalities in the Contract for
making such changes shall not affect the Surety's obligations under this bond and the Surety hereby
waives notice of any such changes.

[END OF PAGE]

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this ____
day of _____, _____.

CONTRACTOR

By: _____
President

SURETY

By: _____
Attorney-in-Fact

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond.)

XII. ATTACHMENT 7, PREVAILING WAGES

PREVAILING WAGES

Prevailing Wage information is contained in the pages immediately following this page.

These pages are not included in the page numbering of this Contract document



TIMOTHY M. O'BRIEN, CPA
AUDITOR

201 West Colfax Avenue, #705 • Denver, Colorado 80202
(720) 913-5000 • Fax (720) 913-5253 • denvergov.org/auditor

City and County of Denver

TO: All Users of the City and County of Denver Prevailing Wage Schedules
FROM: Luis Osorio Jimenez, Prevailing Wage Administrator
DATE: August 6, 2024
SUBJECT: Latest Change to Prevailing Wage Schedules

The effective date for this publication will be, **Tuesday, August 6, 2024**, and applies to the City and County of Denver for **HIGHWAY CONSTRUCTION PROJECTS** (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) in accordance with the Denver Revised Municipal Code, Section 20-76(c).

General Wage Decision No. CO 20240009
Superseded General Decision No. CO 20230009
Modification No. 3
Publication Date: 8/2/2024
(9 pages)

Unless otherwise specified in this document, apprentices shall be permitted only if they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor (DOL). The employer and the individual apprentice must be registered in a program which has received prior approval by the DOL. Any employer who employs an apprentice and is found to be in violation of this provision shall be required to pay said apprentice the full journeyman scale.

Attachments as listed above.

In accordance to the amendment of Section 20-76, Division 3, Article IV, Chapter 20 of the Denver Revised Municipal Code enacted on Aug 21st, 2023, the Prevailing Wage Administrator is authorized to approve and adjust all Davis Bacon classifications under \$18.29 to comply with the city's minimum wage. Contractors will also have to comply with the established Minimum Wage of \$18.29 for all apprentice classifications as base rate. Fringes will be added in to the base rate amount.

"General Decision Number: CO20240009 08/02/2024

Superseded General Decision Number: CO20230009

State: Colorado

Construction Type: Highway

Counties: Denver and Douglas Counties in Colorado.

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658.

Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered	. Executive Order 14026
into on or after January 30,	generally applies to the
2022, or the contract is	contract.
renewed or extended (e.g., an	. The contractor must pay
option is exercised) on or	all covered workers at
after January 30, 2022:	least \$18.29 per hour (or
	the applicable wage rate
	listed on this wage
	determination, if it is
	higher) for all hours

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	05/31/2024
2	07/05/2024
3	08/02/2024

CARP9901-008 05/01/2024

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 33.11	12.17

ELEC0068-016 03/01/2011

	Rates	Fringes
TRAFFIC SIGNALIZATION:		
Traffic Signal Installation		
Zone 1.....	\$ 26.42	4.75%+8.68
Zone 2.....	\$ 29.42	4.75%+8.68

TRAFFIC SIGNAL INSTALLER ZONE DEFINITIONS

Zone 1 shall be a 35 mile radius, measured from the following addresses in each of the following cities:
Colorado Springs - Nevada & Bijou
Denver - Ellsworth Avenue & Broadway
Ft. Collins - Prospect & College
Grand Junction - 12th & North Avenue
Pueblo - I-25 & Highway 50
All work outside of these areas shall be paid Zone 2 rates.

* ENGI0009-008 05/01/2024

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
(3)-Hydraulic Backhoe		
(Wheel Mounted, under 3/4		
yds), Hydraulic Backhoe		
(Backhoe/Loader		

combination), Drill Rig Caisson (smaller than Watson 2500 and similar), Loader (up to and including 6 cu. yd.).....\$ 35.03	15.20
(3)-Loader (under 6 cu. yd.) Denver County.....\$ 35.03	15.20
(3)-Motor Grader (blade- rough) Douglas County.....\$ 33.19	15.20
(4)-Crane (50 tons and under), Scraper (single bowl, under 40 cu. yd).....\$ 35.78	15.20
(4)-Loader (over 6 cu. yd) Denver County.....\$ 35.20	15.20
(5)-Drill Rig Caisson (Watson 2500 similar or larger), Crane (51-90 tons), Scraper (40 cu.yd and over),.....\$ 35.41	15.20
(5)-Motor Grader (blade- finish) Douglas County.....\$ 35.58	15.20
(6)-Crane (91-140 tons).....\$ 35.28	15.20

* SUCO2011-004 09/15/2011

	Rates	Fringes
CARPENTER (Excludes Form Work)...	\$ 19.27	5.08
CEMENT MASON/CONCRETE FINISHER		
Denver.....	\$ 20.18	5.75
Douglas.....	\$ 18.75	3.00
ELECTRICIAN (Excludes Traffic Signal Installation).....	\$ 35.13	6.83
FENCE ERECTOR (Excludes Link/Cyclone Fence Erection).....	\$ 18.42 **	3.20
GUARDRAIL INSTALLER.....	\$ 18.29 **	3.20

HIGHWAY/PARKING LOT

STRIPING:Painter

Denver.....	\$ 18.29	**	3.21
Douglas.....	\$ 19.56	**	3.21

IRONWORKER, REINFORCING

(Excludes Guardrail

Installation).....	\$ 55.25	**	3.65
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IRONWORKER, STRUCTURAL/ORNAMENTAL

(Includes Link/Cyclone Fence

Erection, Excludes Guardrail

Installation).....	\$ 37.23	**	12.79
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LABORER

Asphalt Raker.....	\$ 18.29	**	4.25
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Asphalt Shoveler.....	\$ 21.21		4.25
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Asphalt Spreader.....	\$ 18.58		4.65
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Common or General

Denver.....	\$ 18.78	**	6.77
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Douglas.....	\$ 18.28	**	4.25
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Concrete Saw (Hand Held)....	\$ 18.29	**	6.14
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Landscape and Irrigation....	\$ 18.29	**	3.16
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Mason Tender-

Cement/Concrete

Denver.....	\$ 18.29	**	4.04
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Douglas.....	\$ 18.96	**	4.25
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Pipelayer

Denver.....	\$ 18.29	**	2.41
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Douglas.....	\$ 18.96	**	2.18
--------------	----------	----	------

Traffic Control (Flagger)...	\$ 18.29	**	3.05
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Traffic Control (Sets

Up/Moves Barrels, Cones,

Install Signs, Arrow

Boards and Place

Stationary Flags) (Excludes

Flaggers).....	\$ 21.17	**	3.22
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PAINTER (Spray Only).....	\$ 18.29	**	2.87
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POWER EQUIPMENT OPERATOR:

Asphalt Laydown

Denver.....	\$ 22.67		8.72
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Douglas.....	\$ 23.67	8.47
Asphalt Paver		
Denver.....	\$ 24.97	6.13
Douglas.....	\$ 25.44	3.50
Asphalt Roller		
Denver.....	\$ 23.13	7.55
Douglas.....	\$ 23.63	6.43
Asphalt Spreader.....	\$ 22.67	8.72
Backhoe/Trackhoe		
Douglas.....	\$ 23.82	6.00
Bobcat/Skid Loader.....	\$ 18.29 **	4.28
Boom.....	\$ 22.67	8.72
Broom/Sweeper		
Denver.....	\$ 22.47	8.72
Douglas.....	\$ 22.96	8.22
Bulldozer.....	\$ 26.90	5.59
Concrete Pump.....	\$ 21.60	5.21
Drill		
Denver.....	\$ 20.48	4.71
Douglas.....	\$ 20.71	2.66
Forklift.....	\$ 18.29 **	4.68
Grader/Blade		
Denver.....	\$ 22.67	8.72
Guardrail/Post Driver.....	\$ 18.29 **	4.41
Loader (Front End)		
Douglas.....	\$ 21.67	8.22
Mechanic		
Denver.....	\$ 22.89	8.72
Douglas.....	\$ 23.88	8.22
Oiler		
Denver.....	\$ 23.73	8.41
Douglas.....	\$ 24.90	7.67
Roller/Compactor (Dirt and Grade Compaction)		
Denver.....	\$ 20.30	5.51
Douglas.....	\$ 22.78	4.86
Rotomill.....	\$ 18.29 **	4.41
Screed		
Denver.....	\$ 22.67	8.38
Douglas.....	\$ 29.99	1.40
Tractor.....	\$ 18.29 **	2.95

TRAFFIC SIGNALIZATION:
Groundsman

Denver.....	\$ 18.29	3.41
Douglas.....	\$ 18.67	7.17

TRUCK DRIVER

Distributor

Denver.....	\$ 19.12	5.82
Douglas.....	\$ 18.29 **	5.27

Dump Truck

Denver.....	\$ 18.29 **	5.27
Douglas.....	\$ 19.41 **	5.27

Lowboy Truck.....	\$ 18.29	5.27
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Mechanic.....	\$ 26.48	3.50
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Multi-Purpose Specialty &
Hoisting Truck

Denver.....	\$ 18.29	3.17
Douglas.....	\$ 20.85	2.88

Pickup and Pilot Car

Denver.....	\$ 18.29 **	3.77
Douglas.....	\$ 20.48 **	3.68

Semi/Trailer Truck.....	\$ 18.39	4.13
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Truck Mounted Attenuator....	\$ 18.29 **	3.22
------------------------------	-------------	------

Water Truck

Denver.....	\$ 26.27	5.27
Douglas.....	\$ 19.46	2.58

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

**Administrator Supplemental Rates
(Specific to the Denver projects)
Revision Date: 01-01-2024**

Classification		Base	Fringe
Guard Rail Installer		\$18.29	\$3.20
Highway Parking Lot Striping: Painter		\$18.29	\$3.21
Laborer	Removal of Asbestos	\$21.03	\$8.55
Laborer (Landscape & Irrigation)		\$18.29	\$3.16
Line Construction	Lineman, Gas Fitter/Welder	\$36.88	\$9.55
	Line Eq Operator/Line Truck Crew	\$25.74	\$8.09
Millwright		\$28.00	\$10.00
Pipefitter		\$30.45	\$12.85
Plumber		\$30.19	\$13.55
Power Equipment Operator (Tunnels Above and Below Ground, shafts and raises):	Group 1	\$25.12	\$10.81
	Group 2	\$25.47	\$10.85
	Group 3	\$25.57	\$10.86
	Group 4	\$25.82	\$10.88
	Group 5	\$25.97	\$10.90
	Group 6	\$26.12	\$10.91
	Group 7	\$26.37	\$10.94
Power Equipment Operator	Group 1	\$22.97	\$10.60
	Group 2	\$23.32	\$10.63
	Group 3	\$23.67	\$10.67
	Group 4	\$23.82	\$10.68
	Group 5	\$23.97	\$10.70
	Group 6	\$24.12	\$10.71
	Group 7	\$24.88	\$10.79
Truck Driver	Group 1	\$18.42	\$10.00
	Group 2	\$19.14	\$10.07
	Group 3	\$19.48	\$10.11
	Group 4	\$20.01	\$10.16
	Group 5	\$20.66	\$10.23
	Group 6	\$21.46	\$10.31
Truck Driver: Truck Mounted Attenuator		\$18.29	\$3.22

Go to <http://www.denvergov.org/Auditor> to view the Prevailing Wage Clarification Document for a list of complete classifications used

XIII. ATTACHMENT 8, LIEN RELEASE FORM



DENVER INTERNATIONAL AIRPORT
FINAL LIEN RELEASE – CONSTRUCTION (Subcontractor)

Project: _____	Date: _____
City Contract No. _____	Subcontractor Contract No. _____
	Dated: _____, 20 ____
FROM: Subcontractor: _____	(1) Last Progress Payment for billing period ending _____, 20 ____
Address: _____	\$ _____
City/State: _____	(2) Does not apply
Telephone: _____	
TO: Contractor: _____	(3) Does not apply
Address: _____	
City/State: _____	(4) Total Paid to Date: \$ _____
() SBE () DBE () MBE () WBE () Non	

The Undersigned hereby certifies that all costs, charges, or expenses incurred by the undersigned or on behalf of the undersigned for any work, labor or services performed and for any materials, supplies or equipment provided on the above referenced Project or used in connection with the above referenced Subcontract (the "Work Effort") have been duly paid in full.

The Undersigned further certifies that each of the undersigned's subcontractors and suppliers that incurred or caused to be incurred, on their behalf, costs, charges, or expenses in connection with the undersigned's Work Effort on the above referenced Project have been duly paid in full.

The undersigned Subcontractor hereby (1) acknowledges receipt of the progress payment referred to above as the Last Progress Payment which, when added to the total of all previous progress payments, constitutes full payment for all labor, services, materials and supplies which the undersigned has provided for use in and upon the project described above through _____, 20____ and, (2) hereby releases the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier from any and all claims prior to the above mentioned date.

The Subcontractor also hereby agrees that the Contractor, Surety, the City and County of Denver, and any intermediate subcontractor or supplier of any tier shall be released from any and all claims arising out of its performance or non-performance of any contract associated with the above project.

As additional consideration for the payments referenced above, the undersigned agrees to defend, indemnify and hold harmless the City, its officers, employees, agents and assigns and the above-referenced Contractor from and against all costs, losses, damages, causes of action, judgments under the subcontract and expenses arising out of or in connection with any claim or claims against the City or the Contractor which arise out of the Undersigned's performance of the Work Effort and which may be asserted by the Undersigned or any of its suppliers or subcontractors of any tier or any of their representatives, officers, agents, or employees.

It is acknowledged that this release is for the benefit of and may be relied upon by the City and the referenced Contractor.

The foregoing shall not relieve the undersigned of any obligation under the provisions of the Undersigned's subcontract, as the subcontract may have been amended, which by their nature survive completion of the Undersigned's work effort including, without limitation, warranties, guarantees, insurance requirements and indemnities.

Subcontractor: _____

Certified by: _____

Title: _____

Date: _____

[END OF BID DATA FORMS]



Bid Forms



VI. ATTACHMENT 1, BID FORMS
Attachment 1, Part 1 Bid Acknowledgement Letter

CONTRACT NAME: Level 5 Dome and Ramps

CONTRACT NUMBER: 202475736

BID LETTER

BIDDER Sky Blue Builders, LLC.

Chief Executive Officer
City and County of Denver
Business Management Services (Procurement) Office
Airport Office Building, Room 8810
Denver International Airport
8500 Peña Boulevard
Denver, Colorado 80249

This letter is in response to the Notice of Invitation for Bids first published on December 4, 2024, for Contract No. 202475736, Denver International Airport, Level 5 Dome and Ramps

This contract is for a qualified contractor and Denver International Airport (DEN) to perform work located at terminal level 5 roadways east and west. Demolition includes existing crosswalks, curbs, ramps as noted in the drawings to accommodate the new layout. Installation includes raised crosswalks and vehicular ramps, passenger loading zones, along curbside sidewalks, cane detection devices for existing encroachments, new traffic and accessible wayfinding signage.

The undersigned Bidder declares that it has carefully examined the location of the proposed work and has carefully read and examined all of the Contract Documents which include, but are not limited to, the Contract Drawings, Technical Specifications, Construction Contract General Conditions, Special Conditions, Instruction to Bidders, and Equal Employment Opportunity EEO provisions, and hereby proposes to furnish all labor, materials, equipment, tools, transportation and services, and to discharge all duties and obligations necessary and required to perform and complete the Work as required in the Contract Documents which are provided herewith and by this reference made a part hereof for the prices shown in the Bid forms and totaled below:

TOTAL BASE BID Amount: \$5,156,165.00

Five million, one hundred fifty-six thousand, one hundred sixty-five dollars

Dollars and zero Cents

(\$ 5,156,165.00).

The undersigned acknowledges receipt, understanding and full consideration of the following addenda to the Contract Documents:

Addenda Nos.: Addendum 1 (12/05/24), Addendum 2 (12/17/24), Addendum 3 (12/31/24)

The undersigned agrees that this Bid is a firm offer to the City to perform and complete the Contract described above which cannot be withdrawn for one hundred twenty (120) calendar days after the bids are opened or until after a contract for the work described in these Bid documents is fully executed by the City, whichever date is earlier.

The undersigned Bidder hereby agrees to appear at Denver International Airport, Business Management Services Office, Room 8810, Airport Office Building, at any time within ten (10) business days from the date of a written notice from the CEO to do so, mailed, emailed, or faxed to the business address of Bidder and at that time the Bidder shall: (1) deliver an executed Contract which conforms with this Bid; (2) furnish the required performance and payment bonds in the sum of the Total Contract Bid Amount shown above, executed by a surety company acceptable to the CEO; and (3) furnish the required insurance documents.

Enclosed herewith is a Bid guarantee, as defined in the Instructions to Bidders, in the amount of which Bid guarantee the undersigned Bidder agrees is to be paid to and become the property of the City as liquidated damages should the Bid be considered to be the best by the City and the undersigned Bidder notified that it is the apparent low Bidder and it fails to enter into contract in the form prescribed and to furnish the required performance and payment bonds and evidences of insurance within ten (10) business days as stipulated above.

Attached and incorporated herein are the proposed Schedule of Prices and Quantities and Bid Data Forms. All of the forms must be completed. Bidder acknowledges that the City may incorporate, at its option, any or all of the data submitted by the Bidder into a contract arising out of this Bid.

The undersigned Bidder acknowledges the right of the City to waive informalities in the Bids, to reject any or all Bids submitted, and to re-advertise for Bids.

The undersigned certifies that it has examined and is fully familiar with all of the provisions of the Contract Documents and is satisfied that they are accurate; that it has carefully checked all words and figures and all statements made in these Bid forms; and that it has satisfied itself with respect to the actual site conditions and the nature and location of the Work, the general and local conditions which may be encountered in the performance of the Work, and other matters which in any way affect the Work or the cost thereof.

[CERTIFICATION AND SIGNATURE ON FOLLOWING PAGES]

This Bid is submitted upon the declaration that neither, I (we), nor, to the best of my (our) knowledge, none of the members of my (our) firm or company have either directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this Bid.

Dated this 10th day of January, 2025.

BUSINESS ADDRESS OF BIDDER: 3457 Ringsby Court, unit 111

City, State, Zip Code: Denver, CO 80216

Telephone Number of Bidder: (303) 220.0339

Fax Number of Bidder: () N/A

Social Security or Employer ID. No. of Bidder: 20-8411005

Email Address: mhaile@skybluebuilders.com

SIGNATURE OF BIDDER:

PRINT NAME OF BIDDER:

Sky Blue Builders, LLC.

Attest:

(Corporate Seal)

Mowa Haile

Secretary

By: 

President

Attachment 1, Part 3 Contract Information

1. Name of Bidder/Contractor: Sky Blue Builders, LLC.
2. Type of business entity: General Contractor
NOTE: If Bidder is a partnership or joint venture, give full names of all partners or joint venturers. Bid must be signed by all joint venturers. If Bidder is a limited liability company, Bid must be signed by authorized manager (may be signed by member-manager if LLC is organized to allow management by members).
3. Prequalified by City and County of Denver as Construction Contractor : Categories: 1F (2) Concrete Roadway Paving
Monetary Limit: \$6,000,000
4. Address of Contractor: 3457 Ringsby Court, unit 111
Denver, CO 80216

Telephone: 303.220.0339
Email Address: mhaile@skybluebuilders.com
5. Established where and when: 2007, Denver, CO
6. Contractor's Banks: Vecira Bank
7. Principal Officers of Contractor (managers and members if LLC):
- | | |
|---------------------------|----------------|
| Name: <u>Mowa Haile</u> | Name: <u></u> |
| Title: <u>President</u> | Title: <u></u> |
| Name: <u>Lauren Grosh</u> | Name: <u></u> |
| Title: <u>CMO</u> | Title: <u></u> |

8. Bidder's/Contractor's City and County of
Denver Contractor License if obtained: License No.: LIC00251155
Class: Class B

Contractor license is required prior to construction, but not prior to Bid submittal.

9. State of Incorporation (or organization if LLC or partnership): Colorado
10. Bidder's Surety: Nationwide
11. Surety's State of Incorporation: Ohio
12. Address of Contractor in other areas
(if different from No. 4): N/A
13. Name and address of person to
receive payments: Sky Blue Builders, LLC. - Accounting
3457 Ringsby Court, unit 111
Denver, CO 80216
Attn: Jim Allman
14. If the Bidder/Contractor is a joint venture, attach a certified copy of the joint venture agreement.
The joint venture agreement will not be included as a Contract Document.
15. The Bidder/Contractor shall identify all applicable labor agreements (if any) to be used in the
performance of the Work:

N/A

16. References (Provide three professional references below):

1. Company Name: Denver International Airport
Contact: Michael Sheehan
Project Title: Senior Vice President, Special Projects
Email: Michael.Sheehan@citydenver.com
Phone Number: 303.342.2139

2. Company Name: Denver International Airport
Contact: Steven Toebben
Project Title: Supervisor, Project Programming and Development
Email: Steven.Toebben@citydenver.com
Phone Number: 303.342.2028

3. Company Name: United Airlines - Denver International Airport
Contact: Dylan Engberg
Project Title: Project Manager, Corporate Real Estate Planning and Development
Email: Dylan.engberg@united.com
Phone Number: 303.348.6501

CERTIFICATION

The undersigned certifies that to the best of his/her knowledge, the information presented in this Bid Data Form is a statement of fact and that the Bidder has the financial capability to perform the Work described in the Bidder's submission.

Signature  Title President

Print Name Mowa Haile

Date 1/10/2025

Attachment 1. Part 2 Disclosure of Legal and Administrative Proceedings and Financial Condition

If no disclosure required in accordance with II-14, please sign affirmation statement.

Signature  Title President

Print Name: **Mwona Haile**

Date 1/10/2025

If disclosure is required in accordance with II-14, please use the following space to provide information. If additional space is needed, please attach additional pages.

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Attachment 1, Part 7 Bid Bond

Bidder Sky Blue Builders, LLC

DENVER INTERNATIONAL AIRPORT

Level 5 Dome and Ramps

Contract No. 202475736

BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT Sky Blue Builders, LLC, as Principal, and The Gray Casualty & Surety Company, a corporation organized and existing under and by virtue of the laws of the State of Louisiana, and authorized to do business within the State of Colorado as Surety, are held and firmly bound unto the City and County of Denver, Colorado, as Obligor, in the full and just sum of Five Percent Amount Bid Dollars and _____ Cents (\$ 5% Amount Bid) lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents:

WHEREAS, the said Principal is herewith submitting its Bid, dated on January 3, 2025, for the construction of Contract No. 202475736, Level 5 Dome and Ramps, Denver International Airport, as set forth in detail in the contract documents for the City and County of Denver, Colorado, and said Obligor has required as a condition for receiving said Bid that the Principal deposit specified Bid security in the amount of not less than five percent (5%) of the amount of said Bid, as it relates to work to be performed for the City, conditioned that in event of failure of the Principal to execute the Contract for such construction and furnish required Performance and Payment Bond if the Contract is offered them, that said sum be paid immediately to the Obligor as liquidated damages, and not as a Penalty, for the Principal's failure to perform.

The condition of this obligation is such that if the aforesaid Principal shall, within the period specified therefore, on the prescribed form presented to them for signature, enter into a written Contract with the Obligor in accordance with his Bid as accepted, and give Performance and Payment Bond with good and sufficient surety or sureties, upon the form prescribed by the Obligor, for the faithful performance and the proper fulfillment of said Contract, or in the event of withdrawal of said Bid within the time specified, or upon the payment to the Obligor of the sum determined upon herein, as liquidated damages and not as a Penalty, in the event the Principal fails to enter into said Contract and give such Performance and Payment Bond within the time specified, then this Obligation shall be null and void, otherwise to remain in full force and effect.

[END OF PAGE]

Signed, sealed, and delivered this 20th day of December, 2024.

Attest:



Secretary

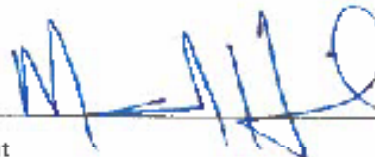
[SEAL if Bidder a corporation]

Sky Blue Builders, LLC

PRINCIPAL

By:

President

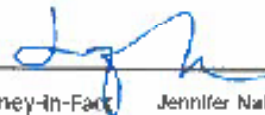


The Gray Casualty & Surety Company

SURETY

By:

Attorney-In-Fact Jennifer Nabar



(ATTACH POWER OF ATTORNEY)

Power of Attorney shall be certified as to the date of Bid.

Munich West Insurance & Surety Service
12/20/2024 14:14 33995960112044

**THE GRAY INSURANCE COMPANY
THE GRAY CASUALTY & SURETY COMPANY**

GENERAL POWER OF ATTORNEY

Bond Number: SBR01025-BR1 **Principal:** Sky Blue Builders, LLC
Project: DENVER INTERNATIONAL AIRPORT Level 5 Dome and Ramps

KNOW ALL BY THESE PRESENTS, THAT The Gray Insurance Company and The Gray Casualty & Surety Company, corporations duly organized and existing under the laws of Louisiana, and having their principal offices in Metairie, Louisiana, do hereby make, constitute, and appoint: Carolyn Hartwick, Craig C. Mowers, Jennifer Nulter, Richard M. Forsherg, and J. Douglas Engerman of Craig, Colorado jointly and severally on behalf of each of the Companies named above its true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver, for and on its behalf and as its deed, bonds, or other writings obligatory in the nature of a bond, as surety, contracts of suretyship as are or may be required as permitted by law, regulation, contract or otherwise, provided that no bond or undertaking or contract of suretyship executed under this authority shall exceed the amount of \$25,000,000.00.

This Power of Attorney is granted and is signed by resolution under and by the authority of the following Resolutions adopted by the Boards of Directors of both The Gray Insurance Company and The Gray Casualty & Surety Company at meetings duly called and held on the 26th day of June, 2003.

"RESOLVED, that the President, Executive Vice President, any Vice President, or the Secretary be and each or any of them, hereby is authorized to execute a power of Attorney qualifying the attorney named in the given Power of Attorney to execute on behalf of the Company bonds, undertakings, and all contracts of surety, and that each or any of them is hereby authorized to attest to the execution of such Power of Attorney, and to attach the seal of the Company; and it is

FURTHER RESOLVED, that the signature of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be binding upon the Company now and in the future when so affixed with regard to any bond, undertaking or contract of surety to which it is attached.

IN WITNESS WHEREOF, The Gray Insurance Company and The Gray Casualty & Surety Company have caused their official seals to be hereunto affixed, and these presents to be signed by their authorized officers this 4th day of November, 2023.



By:

Michael T. Gray

Michael T. Gray
President
The Gray Insurance Company

Cullen S. Piske

Cullen S. Piske
President
The Gray Casualty & Surety Company



State of Louisiana

ss:

Parish of Jefferson

On this 4th day of November, 2023, before me, a Notary Public, personally appeared Michael T. Gray, President of The Gray Insurance Company, and Cullen S. Piske, President of The Gray Casualty & Surety Company, personally known to me, being duly sworn, acknowledged that they signed the above Power of Attorney and affixed the seals of the companies as officers of, and acknowledged said instrument to be the voluntary act and deed, of their companies.



Leigh Anne Henican
Notary Public
Notary ID No. 92653
Orleans Parish, Louisiana

Leigh Anne Henican

Leigh Anne Henican
Notary Public, Parish of Orleans State of Louisiana
My Commission is for Life

I, Mark S. Mangano, Secretary of The Gray Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by the companies, which is still in full force and effect. IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Company this 20th day of December, 2024.

Mark S. Mangano

I, Leigh Anne Henican, Secretary of The Gray Casualty & Surety Company, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney given by the companies, which is still in full force and effect. IN WITNESS WHEREOF, I have set my hand and affixed the seals of the Company this 20th day of December, 2024.

Leigh Anne Henican





Diversity Survey



Diversity and Inclusiveness* in City Solicitations Information Request Form

Submitted on	10 January 2025, 9:11am
Receipt number	5698
Related form version	6

Page 1/2

Business Email Address	mhaile@skybluebuilders.com
Enter Email Address of City and County of Denver contact person facilitating this solicitation	contract.procurement@flydenver.com
Please provide the City Agency that is facilitating this solicitation:	Denver International Airport
Project Name	Level 5 Domes & Ramps Adjustments
Solicitation No. (If Applicable)	202475736
Name of Your Company	Sky Blue Builders
What Industry is Your Business?	Construction/Landscape/Maintenance Services
Street Address	3457 Ringsby Court, Unit 111
City	Denver
State	CO
ZIP Code	80216
Business Phone Number	303.220.0339
Business Facsimile Number	N/A

Page 2/2

1. How many employees does your company employ?	51 - 100
1A. How many of your employees are full time?	52
1B. How many of your employees are part time?	1
2. Do you have a Diversity and Inclusiveness Program?	Yes



December 5, 2024

Denver International Airport

Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number One

This Addendum Number One supersedes and/or supplements all portions of the Bid Documents with which it conflicts.
Bidders must acknowledge receipt of this addendum on Attachment 1, Page 1 of the Bid Forms.

Sheila Motley

Sheila Motley
Contract Administrator
Contract Procurement



Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number One

Scope of this Addendum

Addendum Number One includes modifications to the following Bid Documents issued December 4, 2024. These modifications are deemed necessary by the City and County of Denver.

ATTACHMENT 3, PART 8 LUMPS SUM BID FORM

The Lump Sum Bid Form provided in the RFB will be replaced in its entirety with a PDF Lump Sum Bid Form included with this addendum. The requirement to provide the lump sum bid form in excel format is no longer required.

The total number of pages (including cover sheet) contained in this Addendum Number One is Five (5).

* * * * *

End of Addendum Number One

2.1. Employment and retention?	Yes
2.2. Procurement and supply chain activities? *	Yes
2.3. Customer Service?	Yes
3. Provide a detailed narrative of your company's diversity and inclusiveness principles and programs. This may include, for example, (i) diversity and inclusiveness employee training programs, equal opportunity policies, and the budget amount spent on an annual basis for workplace diversity; or (ii) diversity and inclusiveness training and information to improve customer service. (If Not Applicable, please type N/A below) *	<p>Sky Blue Builders is deeply committed to Diversity and Inclusiveness Principles. With 60% of our company being comprised of minorities, diversity is at the heart of our culture. All employees have grants available to them for professional development and training programs. We also use creative means to recruit and hire diverse employees. Whether it is through recruiters or utilization of Careerwise with high school apprentices, we believe that by having everyone at the table we can achieve great things.</p> <p>The Company is dedicated to the principles of equal employment opportunity in any term, condition or privilege of employment. We do not discriminate against applicants or employees on the basis of age, race, sex (including pregnancy, childbirth, or related medical conditions), gender identity, color, religion, national origin, physical or mental disability, citizenship, ancestry, veterans' status, sexual orientation, or any other legally protected medical condition, family care status, veteran status, marital status, domestic partner status, sexual orientation, or any other basis protected by local, state, or federal law. This prohibition includes unlawful harassment based on any of these protected classes.</p> <p>Unlawful harassment includes verbal or physical conduct which the purpose or effect of substantially interfering with an individual's work performance or creating an intimidating, hostile or offensive work environment. This policy applies to all employees, including managers, supervisors, co-workers, and nonemployees such as guests, clients, vendors, consultants, etc.</p> <p>All employees and applicants for employment are protected, by both Company policy and Equal Employment Opportunity/Affirmative Action regulations and law, from coercion, intimidation, interference, or discrimination for filing a complaint or assisting in an investigation.</p>
4. Does your company regularly communicate its diversity and inclusiveness policies to employees?	Yes
5. How often do you provide training and diversity and inclusiveness principles?	Quarterly
5.1 What percentage of the total number of employees generally participate?	76 - 100%
6. State how you achieve diversity and inclusiveness in supply and procurement activities. This may include,for example, narratives of training programs, equal opportunity policies, diversity or inclusiveness partnership programs, mentoring and outreach programs, and the amount and description of budget spent on an annual basis for procurement and supplier diversity and inclusiveness. (If Not Applicable, please type N/A below)	<p>Sky Blue Builders is committed to the utilization of Small Business firms on this On-Call Contract. We strongly encourage and endorse the utilization of disadvantaged and minority business to further the growth and betterment of the small business construction community at large. Our entire company embraces the utilization of M/WBE firms, from estimating to Project Management, we have the capability to reinforce the growth and development of M/WBE Firms. During the Preconstruction stage, we will attend Outreach Events held by Small/Minority Businesses, DEN, and other agencies/organizations to establish and develop relationships with other M/WBE firms to supplement our M/WBE database. During construction, the comprehensive approach for reporting prompt payment mechanism will be implemented and adhered to by Sky Blue Builder and our teaming partners. Sky Blue Builders will engage the Small Business and Minority 2 of 3 Community Organizations to supplement and enhance the</p>

participation of small and minority businesses. In order to level the playing field for all M/WBE's across all scopes of work, research will be conducted to determine shortfall or overconcentration of M/WBE firms amongst the scope of works. We will identify these shortfalls and overconcentration of firms to determine a means in which we can supplement or create partnering opportunities for those scope of works identified. Through our small business database we will help assist firms in becoming M/WBE certified to help supplement scope of works in which there are shortfalls. Sky Blue Builders will strategically develop scope of work packages that have the capability to engage all sizes of M/WBE firms.

7. Do you have a diversity and inclusiveness committee?	Yes
8. Do you have a budget for diversity and inclusiveness efforts?	Yes
9. Does your company integrate diversity and inclusion competencies into executive/manager performance evaluation plans?	Yes
10. I attest that the information represented herein is true, correct and complete, to the best of my knowledge.	Check Here if the Above Statement is True.
Name of Person Completing Form	Lauren Grosh
Today's Date	01/07/2025

NOTE: Attach additional sheets or documentation as necessary for a complete response.



December 17, 2024

Denver International Airport
Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number Two

This Addendum Number Two supersedes and/or supplements all portions of the Bid Documents with which it conflicts. Bidders must acknowledge receipt of this addendum on Attachment 1, Page 1 of the Bid Forms.

Sheila Motley

Sheila Motley
Contract Administrator
Contract Procurement



Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number Two

Scope of this Addendum

Addendum Number Two includes modifications to the following Bid Documents issued December 4, 2024. These modifications are deemed necessary by the City and County of Denver.

Schedule of Activities

The schedule of Activities has been amended to add a second Questions submittal opportunity with a deadline of December 20, 2024, by 2:00 p.m. (MT)

The Bid Opening Date shall be extended from January 3, 2024, by 2:00 p.m. (MT) to January 10, 2025, by 2:00 p.m. (MT).

Event	Date
IFB Advertisement	December 4, 2024
Optional Pre-Bid Conference	December 10, 2024, at 9:00 a.m. Denver Local Time
Optional Site Walk	December 11, at 2:00 p.m. Denver Local Time
Last Date to Submit Written Questions	December 16, 2024, by 2:00 p.m. Denver Local Time
Additional Questions Submittal Opportunity Deadline	December 20, 2024, by 2:00 p.m. Denver Local Time
Bid Opening	January 3, 2025, by 2:00 p.m. Denver Local Time
Bid Opening	January 10, 2025, by 2:00 p.m. Denver Local Time

Clarification to the following:

The following provides clarification to the Work Note P5 found on page 60 – Sheet No. P2.300, in attachment 2024-11-13_DEN_Lvl_05 Domes and Ramps_IFC Drawings

- Repair of cracked storm drain piping, as identified in work notes P5 on sheet 2.300. GC to provide price per linear foot or repair. The total length of pipe replacement will be determined after the contract is awarded.

The total number of pages (including cover sheet) contained in this Addendum Number Two is Two (2).

* * * * *

End of Addendum Number Two.



December 31, 2024

Denver International Airport
Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number Three

This Addendum Number Three supersedes and/or supplements all portions of the Bid Documents with which it conflicts. Bidders must acknowledge receipt of this addendum on Attachment 1, Page 1 of the Bid Forms.

Sheila Motley

Sheila Motley
Contract Administrator
Contract Procurement



Level 5 Domes and Ramps Adjustments

Bid Number 202475736

Addendum Number Three

Scope of this Addendum

Addendum Number Three includes modifications to the following Bid Documents issued December 4, 2024. These modifications are deemed necessary by the City and County of Denver.

QUESTIONS AND ANSWERS

Included with this Addendum Three is the Q&A document which provides responses to all questions received by the deadline in Bidnet.

ATTACHMENTS:

- **ATTACHMENT 3, PART 8 LUMP SUM BID FORM**
The Lump Sum Bid Form previously provided shall be replaced in its entirety with a PDF Lump Sum Bid Form I included with this Addendum Three.
- **2024-10-10 DEN_LEVEL 05 DOMES AND RAMPS_IFC PROJECT MANUAL**
The following provides clarification to Mechanical Design Standards Manual, Chapter 12-Technical Specification Requirements, Pages 352-254, as follows:
 - All cast-iron being replaced should be epoxy piping reference attached DEN Mechanical Design Standards manual pages 252-254.
 - All cast-iron being replaced should be epoxy piping, extending from the initial tie-in point to either the new location or existing drain outlet

The following Attachments apply to this Addendum Three:

- Q&A Document 1
- Lump Sum Bid Form
- Pages from DEN Mechanical Design Standards Manual, Chapter 12-Technical Specification Requirements, Pages 352-254

The total number of pages (including cover sheet) contained in this Addendum Number Three is Sixteen (16).

* * * * *

End of Addendum Number Three.

DESIGN, ENGINEERING AND CONSTRUCTION –
LUMP SUM/FIXED FEE BID FORM
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)



LUMP SUM/FIXED FEE

Project Name:	Parking Level 05 Domes and Ramp Enhancement
Project Location:	Denver International Airport
Bid Date:	January 10, 2025
General Contractor:	Sky Blue Builders, LLC
Contractor's Address:	3457 Ringbsy Court, Unit 111, Denver CO 80216
Contractor's Contact Information:	Lauren Grosh (303) 220 - 0339

Bid Overview:

Having carefully examined the site, the plans, specifications, and all other contract documents related to the project named above and in accordance with Title 1402 of the 2011 Standard Specifications for Construction General Contract Conditions (the Yellow Book), the undersigned hereby agrees to perform all work required for the project as detailed in the contract documents for the Lump Sum (Fixed Fee) stated below.

Contractor's Acknowledgement and Representations:

- By submitting this Lump Sum (Fixed Fee) Bid, the General Contractor acknowledges and agrees to the following terms:
- 1. Acknowledgment of Contract Documents: The Contractor has thoroughly reviewed all relevant documents related to the project, including plans, specifications, General and Special Conditions, and addenda, and is submitting this bid based on that review.
 - 2. Changes in Scope: Any additional work outside the scope of the original bid will require a written change order signed by both the Contractor and the Owner, with pricing adjustments as necessary.
 - 3. Completion of Work: The Contractor will complete the work in accordance with the project schedule and as outlined in the contract documents.

Conditions of Bid:

- 1. Contract Award: The City reserves the right to accept or reject this bid and may choose to negotiate further terms before issuing a formal contract.
- 2. Insurance and Bonds: Upon contract award, the Contractor will provide proof of insurance (general liability, workers’ compensation, etc.) and any required performance and payment bonds.
- 3. Licensing and Permits: The Contractor is responsible for obtaining all necessary licenses and permits to complete the work.

Lump Sum/Fixed Fee Amount:

The total fixed cost for completing all work as described in the contract documents, including labor, materials, overhead, profit, and all other expenses necessary for the completion of the project, is:

Total Lump Sum Bid Amount:	\$5,156,165
Spell out amount in words:	Five Million, One Hundred and Fifty Six Thousand, One Hundred Sixty Five Dollars

This bid includes all taxes, fees, permits, and other charges required to complete the project.

DESIGN, ENGINEERING AND CONSTRUCTION –
LUMP SUM/FIXED FEE BID FORM
DENVER INTERNATIONAL AIRPORT
8500 Peña Blvd. | Denver, Colorado 80249-6340 | 720-730-IFLY (4359)



Provide a detailed breakdown of the lump sum bid based on the major divisions of the Specifications. This ensures transparency in pricing and allows for easier adjustments if certain parts of the scope change.

Division	Description	Amount (USD)
1	General Requirements	\$795,180
2	Existing Conditions	\$413,839
3	Concrete	\$2,116,228
4	Masonry	N/A
5	Metals	\$414,323
6	Wood, Plastics, and Composites	N/A
7	Thermal and Moisture Protection	\$3,049
8	Openings	N/A
9	Finishes	N/A
10	Specialties	\$178,418
11	Equipment	N/A
12	Furnishings	N/A
13	Special Construction	N/A
14	Conveying Equipment	N/A
20	Mechanical Support	N/A
21	Fire Suppression	N/A
22	Plumbing	\$200,638
23	Heating, Ventilating, and Air Conditioning (HVAC)	N/A
25	Integrated Automation	N/A
26	Electrical	N/A
27	Communications	N/A
28	Electronic Safety and Security	N/A
31	Earthwork	\$44,254
32	Exterior Improvements	\$885,154
33	Utilities	N/A
Sub-Total		
Bonds		\$59,874
Insurances		\$27,246
Textura Fees		\$17,962
Total Lump Sum Bid		\$5,156,165

The above total should cover all labor, materials, equipment, overhead, and profit necessary to complete the project as outlined in the project documents.



If applicable, specify allowances or contingencies as required by the bid documents.

Allowance 1: [Description]	<u>N/A</u>
Allowance 2: [Description]	<u>N/A</u>
Contingency: [Description]	<u>N/A</u>

If applicable, specify add/alternates as required by the bid documents.

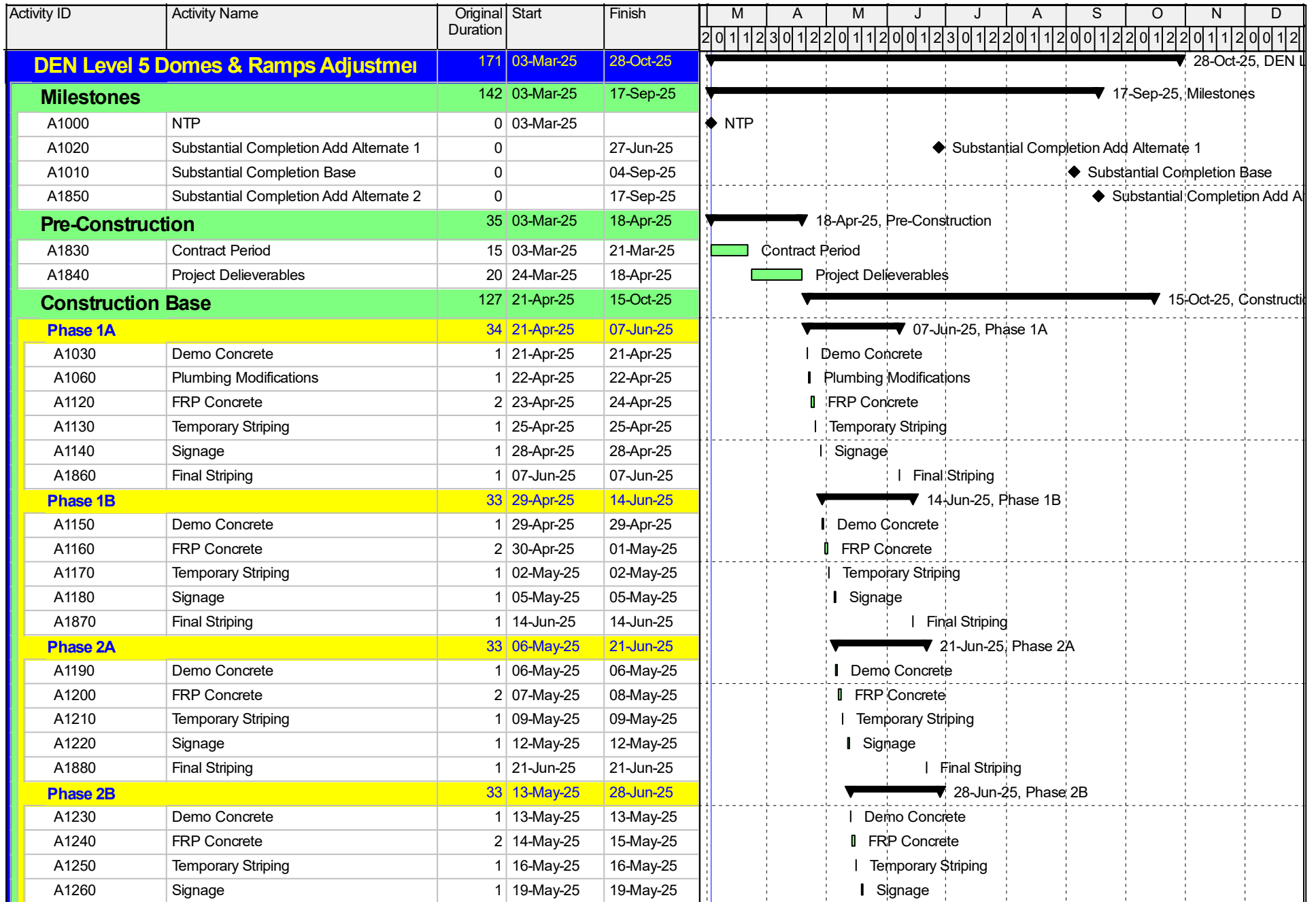
Add 1: [Description]	<u>N/A</u>
Add 2: [Description]	<u>N/A</u>
Add 3: [Description]	<u>N/A</u>
Alternate 1: [Description]	<u>N/A</u>
Alternate 2: [Description]	<u>N/A</u>
Alternate 3: [Description]	N/A

Construction Notice to Proceed (NTP) Date:	<u>March 3, 2025</u>
Construction Substantial Completion Date:	<u>September 17, 2025</u>
Construction Final Completion Date:	<u>October 28, 2025</u>

Signatures:

By signing below, the Contractor acknowledges and agrees to the terms outlined in this Lump Sum/Fixed Fee Bid Form.

Signature: _____
Title: President
Date: 1/10/2025



Activity ID	Activity Name	Original Duration	Start	Finish																												
					M	A	M	J	J	A	S	O	N	D																		
A1080	Plumbing Modifications	1	08-Aug-25	08-Aug-25																												
A1680	FRP Concrete	2	11-Aug-25	12-Aug-25																												
A1690	Temporary Striping	1	13-Aug-25	13-Aug-25																												
A1700	Signage	1	14-Aug-25	14-Aug-25																												
A2000	Final Striping	1	24-Sep-25	24-Sep-25																												
Phase 8A		34	15-Aug-25	01-Oct-25																												
A1710	Demo Concrete	1	15-Aug-25	15-Aug-25																												
A1720	FRP Concrete	2	18-Aug-25	19-Aug-25																												
A1730	Temporary Striping	1	20-Aug-25	20-Aug-25																												
A1740	Signage	1	21-Aug-25	21-Aug-25																												
A2010	Final Striping	1	01-Oct-25	01-Oct-25																												
Phase 8B		34	22-Aug-25	08-Oct-25																												
A1750	Demo Concrete	1	22-Aug-25	22-Aug-25																												
A1760	FRP Concrete	2	25-Aug-25	26-Aug-25																												
A1770	Temporary Striping	1	27-Aug-25	27-Aug-25																												
A1780	Signage	1	28-Aug-25	28-Aug-25																												
A2020	Final Striping	1	08-Oct-25	08-Oct-25																												
Phase 8C		34	29-Aug-25	15-Oct-25																												
A1790	Demo Concrete	1	29-Aug-25	29-Aug-25																												
A1800	FRP Concrete	2	01-Sep-25	02-Sep-25																												
A1810	Temporary Striping	1	03-Sep-25	03-Sep-25																												
A1820	Signage	1	04-Sep-25	04-Sep-25																												
A2030	Final Striping	1	15-Oct-25	15-Oct-25																												
Construction Add Alternate 1		78	21-Apr-25	07-Aug-25																												
Phase 1A		34	21-Apr-25	07-Jun-25																												
A2040	Demo Concrete	1	21-Apr-25*	21-Apr-25																												
A2050	Plumbing Modifications	1	22-Apr-25	22-Apr-25																												
A2060	FRP Concrete	2	23-Apr-25	24-Apr-25																												
A2070	Temporary Striping	1	25-Apr-25	25-Apr-25																												
A2080	Signage	1	28-Apr-25	28-Apr-25																												
A2090	Final Striping	1	07-Jun-25	07-Jun-25																												
Phase 1B		33	29-Apr-25	14-Jun-25																												
A2100	Demo Concrete	1	29-Apr-25	29-Apr-25																												
A2110	FRP Concrete	2	30-Apr-25	01-May-25																												
A2120	Temporary Striping	1	02-May-25	02-May-25																												

Activity ID	Activity Name	Original Duration	Start	Finish	201123012200112001230123012200112001220012200122001220012																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Activity ID	Activity Name	Original Duration	Start	Finish																										
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Phase 4B			34	16-Jun-25	31-Jul-25	31-Jul-25, Phase 4B																								
A2430	Demo Concrete	1	16-Jun-25	16-Jun-25	I Demo Concrete																									
A2440	FRP Concrete	2	17-Jun-25	18-Jun-25	I FRP Concrete																									
A2450	Temporary Striping	1	19-Jun-25	19-Jun-25	I Temporary Striping																									
A2460	Signage	1	20-Jun-25	20-Jun-25	I Signage																									
A2470	Final Striping	1	31-Jul-25	31-Jul-25	I Final Striping																									
Phase 4C			34	23-Jun-25	07-Aug-25	07-Aug-25, Phase 4C																								
A2480	Demo Concrete	1	23-Jun-25	23-Jun-25	I Demo Concrete																									
A2490	FRP Concrete	2	24-Jun-25	25-Jun-25	I FRP Concrete																									
A2500	Temporary Striping	1	26-Jun-25	26-Jun-25	I Temporary Striping																									
A2510	Signage	1	27-Jun-25	27-Jun-25	I Signage																									
A2520	Final Striping	1	07-Aug-25	07-Aug-25	I Final Striping																									
Construction Add Alternate 2			87	30-Jun-25	28-Oct-25	28-Oct-25, Const																								
Phase 5A			35	30-Jun-25	16-Aug-25	16-Aug-25, Phase 5A																								
A2530	Demo Concrete	1	30-Jun-25	30-Jun-25	I Demo Concrete																									
A2540	Plumbing Modifications	1	01-Jul-25	01-Jul-25	I Plumbing Modifications																									
A2550	FRP Concrete	3	02-Jul-25	04-Jul-25	I FRP Concrete																									
A2560	Temporary Striping	1	07-Jul-25	07-Jul-25	I Temporary Striping																									
A2570	Signage	1	08-Jul-25	08-Jul-25	I Signage																									
A2580	Final Striping	1	16-Aug-25	16-Aug-25	I Final Striping																									
Phase 5B			36	09-Jul-25	27-Aug-25	27-Aug-25, Phase 5B																								
A2590	Demo Concrete	1	09-Jul-25	09-Jul-25	I Demo Concrete																									
A2600	Plumbing Modifications	1	10-Jul-25	10-Jul-25	I Plumbing Modifications																									
A2610	FRP Concrete	3	11-Jul-25	15-Jul-25	I FRP Concrete																									
A2620	Temporary Striping	1	16-Jul-25	16-Jul-25	I Temporary Striping																									
A2630	Signage	1	17-Jul-25	17-Jul-25	I Signage																									
A2640	Final Striping	1	27-Aug-25	27-Aug-25	I Final Striping																									
Phase 6A			35	18-Jul-25	04-Sep-25	04-Sep-25, Phase 6A																								
A2650	Demo Concrete	1	18-Jul-25	18-Jul-25	I Demo Concrete																									
A2660	FRP Concrete	3	21-Jul-25	23-Jul-25	I FRP Concrete																									
A2670	Temporary Striping	1	24-Jul-25	24-Jul-25	I Temporary Striping																									
A2680	Signage	1	25-Jul-25	25-Jul-25	I Signage																									
A2690	Final Striping	1	04-Sep-25	04-Sep-25	I Final Striping																									
Phase 6B			35	28-Jul-25	12-Sep-25	12-Sep-25, Phase 6B																								
A2700	Demo Concrete	1	28-Jul-25	28-Jul-25	I Demo Concrete																									

Activity ID	Activity Name	Original Duration	Start	Finish																															
					M	A	M	J	J	A	S	O	N	D																					
					2	0	1	1	2	3	0	1	2	2	0	1	1	2	0	0	1	2	3	0	1	2	2	0	1	1	2	0	0	1	2
A2710	FRP Concrete	3	29-Jul-25	31-Jul-25																															
A2720	Temporary Striping	1	01-Aug-25	01-Aug-25																															
A2730	Signage	1	04-Aug-25	04-Aug-25																															
A2740	Final Striping	1	12-Sep-25	12-Sep-25																															
Phase 7A		36	05-Aug-25	23-Sep-25																															
A2750	Demo Concrete	1	05-Aug-25	05-Aug-25																															
A2760	Plumbing Modifications	1	06-Aug-25	06-Aug-25																															
A2770	FRP Concrete	3	07-Aug-25	11-Aug-25																															
A2780	Temporary Striping	1	12-Aug-25	12-Aug-25																															
A2790	Signage	1	13-Aug-25	13-Aug-25																															
A2800	Final Striping	1	23-Sep-25	23-Sep-25																															
Phase 7B		36	14-Aug-25	02-Oct-25																															
A2810	Demo Concrete	1	14-Aug-25	14-Aug-25																															
A2820	Plumbing Modifications	1	15-Aug-25	15-Aug-25																															
A2830	FRP Concrete	3	18-Aug-25	20-Aug-25																															
A2840	Temporary Striping	1	21-Aug-25	21-Aug-25																															
A2850	Signage	1	22-Aug-25	22-Aug-25																															
A2860	Final Striping	1	02-Oct-25	02-Oct-25																															
Phase 8A		35	25-Aug-25	10-Oct-25																															
A2870	Demo Concrete	1	25-Aug-25	25-Aug-25																															
A2880	FRP Concrete	3	26-Aug-25	28-Aug-25																															
A2890	Temporary Striping	1	29-Aug-25	29-Aug-25																															
A2900	Signage	1	01-Sep-25	01-Sep-25																															
A2910	Final Striping	1	10-Oct-25	10-Oct-25																															
Phase 8B		34	02-Sep-25	18-Oct-25																															
A2920	Demo Concrete	1	02-Sep-25	02-Sep-25																															
A2930	FRP Concrete	3	03-Sep-25	05-Sep-25																															
A2940	Temporary Striping	1	08-Sep-25	08-Sep-25																															
A2950	Signage	1	09-Sep-25	09-Sep-25																															
A2960	Final Striping	1	18-Oct-25	18-Oct-25																															
Phase 8C		35	10-Sep-25	28-Oct-25																															
A2970	Demo Concrete	1	10-Sep-25	10-Sep-25																															
A2980	FRP Concrete	3	11-Sep-25	15-Sep-25																															
A2990	Temporary Striping	1	16-Sep-25	16-Sep-25																															
A3000	Signage	1	17-Sep-25	17-Sep-25																															

Activity ID	Activity Name	Original Duration	Start	Finish	M		A		M		J		J		A		S		O		N		D			
					2	0	1	1	2	3	0	1	2	2	0	1	1	2	0	0	1	2	2	0	1	1
<div><div></div><div></div><div></div></div> A3010	Final Striping	1	28-Oct-25	28-Oct-25															1		Final Striping					



LUMP SUM/FIXED FEE

Project Name:	Parking Level 05 Domes and
Project Location:	Denver International Airport
Bid Date:	
General Contractor:	Sky Blue Builders, LLC
Contractor's Address:	3457 Ringbsy Court, Unit 111,
Contractor's Contact	Lauren Grosh (303) 220 - 0339

Bid Overview:

Having carefully examined the site, the plans, specifications, and all other contract documents related to the project named above and in accordance with Title 1402 of the 2011 Standard Specifications for

Contractor's Acknowledgement and Representations:

By submitting this Lump Sum (Fixed Fee) Bid, the General Contractor acknowledges and agrees to the following terms:

- Acknowledgment of Contract Documents: The Contractor has thoroughly reviewed all relevant documents related to the project, including plans, specifications, General and Special Conditions, and addenda, and is submitting this bid based on that review.
- Changes in Scope: Any additional work outside the scope of the original bid will require a written change order signed by both the Contractor and the Owner, with pricing adjustments as necessary.
- Completion of Work: The Contractor will complete the work in accordance with the project schedule and as outlined in the contract documents.

Conditions of Bid:

- Contract Award: The City reserves the right to accept or reject this bid and may choose to negotiate further terms before issuing a formal contract.
- Insurance and Bonds: Upon contract award, the Contractor will provide proof of insurance (general liability, workers' compensation, etc.) and any required performance and payment bonds.
- Licensing and Permits: The Contractor is responsible for obtaining all necessary licenses and permits to complete the work.

Lump Sum/Fixed Fee Amount:

The total fixed cost for completing all work as described in the contract documents, including labor, materials, overhead, profit, and all other expenses necessary for the completion of the pr
\$5,156,165

Total Lump Sum Bid
Spell out amount in

This bid includes all taxes, fees, permits, and other charges required to complete the project.

Provide a detailed breakdown of the lump sum bid based on the major divisions of the Specifications. This ensures transparency in pricing and allows for easier adjustments if certain parts of the scope change.

Division	Description	Total Project	West Side	East Side
1	General Requirements	\$ 795,180	\$ 397,590	\$ 397,590
2	Existing Conditions	\$ 413,838	\$ 206,919	\$ 206,919
3	Concrete	\$ 2,116,227	\$ 1,185,087	\$ 931,140
4	Masonry			
5	Metals	\$ 414,322	\$ 219,591	\$ 194,731
6	Wood, Plastics, and Composites			
7	Thermal and Moisture Protection	\$ 3,048	\$ 1,524	\$ 1,524
8	Openings			
9	Finishes			
10	Specialties	\$ 178,418	\$ 89,209	\$ 89,209
11	Equipment			
12	Furnishings			
13	Special Construction			
14	Conveying Equipment			
20	Mechanical Support			
21	Fire Suppression			
22	Plumbing	\$ 200,637	\$ 94,300	\$ 106,338
23	Heating, Ventilating, and Air			
25	Integrated Automation			
26	Electrical			
27	Communications			
28	Electronic Safety and Security			
31	Earthwork	\$ 44,253	\$ 22,127	\$ 22,127
32	Exterior Improvements	\$ 885,153	\$ 407,171	\$ 477,983
33	Utilities			
Sub-Total				
Bonds		\$ 59,873	\$ 31,098	\$ 28,775
Insurances		\$ 27,246	\$ 14,151	\$ 13,094
Textura Fees		\$ 17,962	\$ 9,329	\$ 8,633
		\$ 5,156,158	\$ 2,678,095	\$ 2,478,063

The above total should cover all labor, materials, equipment, overhead, and profit necessary to complete the project as outlined in the project documents.

Allowances and Contingencies:

If applicable, specify allowances or contingencies as required by the bid documents.

Allowance 1:	N/A
Allowance 2:	N/A
Contingency:	N/A

Add/Alternates:

If applicable, specify add/alternates as required by the bid documents.

Add 1: [Description]	N/A
Add 2: [Description]	N/A
Add 3: [Description]	N/A
Alternate 1: [Description]	N/A
Alternate 2: [Description]	N/A
Alternate 3: [Description]	N/A

Project Schedule:

<hr/>	
Construction Notice to	March 3, 2025
Construction Substantial	September 17, 2025
Construction Final	October 28, 2025

The contractor agrees to adhere to the project schedule outlined above, barring delays caused by unforeseen circumstances such as extreme weather, changes in project scope, or force majeure events.

Signatures:

By signing below, the Contractor acknowledges and agrees to the terms outlined in this Lump Sum/Fixed Fee Bid Form.

Signature:
Title:
Date:

Questions & Answers - 1

Project 202475736 - Level 5 Domes and Ramps Adjustments
Buying Organization City and County of Denver Department of Aviation

No	Question/Answer	Question Date
Q1	<p>Question: Bid Date Extension</p> <p>Due to the standard holiday schedule, a bid date of 1/3/2025 does not allow the time and resources necessary to provide a competitive bid for this project. We would like to respectfully request the bid date for this project be extended to the week of 1/13-1/17.</p> <p>Answer: The schedule has been extended via Addendum 2. The revised bid due date is now January 10, 2025.</p>	12/11/2024
Q2	<p>Question: Concrete Trucks</p> <p>Are fully loaded 10 CY concrete ready-mix trucks going to be allowed to drive on-site to work areas on structural concrete decks? If not, please advise on max acceptable truck weight on decks.</p> <p>Answer: This is an item that the contractor's construction engineering team will need to evaluate as it relates to their construction means and methods. Historically, concrete trucks with 6 to 8 cubic yards have been permitted on the elevated parking structure framing.</p>	12/11/2024
Q3	<p>Question: Earthwork Specification</p> <p>There is a specification section 312400 Excavation and Embankments - Roads and Bridges that states to follow latest CDOT standard specs/details. What work item(s) is this specification associated with on this project? When looking through the plans it doesn't look like there is any excavation or embankment associated with the scope of this project.</p> <p>Answer: Excavation and Embankment is not required for this project. Specification section 312400 Excavation and Embankments - Roads and Bridges is not applicable.</p>	12/13/2024
Q4	<p>Question: Contractor License</p> <p>Given the work is within a City and County of Denver parking garage, will the contractor be required to hold a Class B Builders license?</p> <p>Answer: The minimum license classification for 2024-COMMCON-0001263 is Specialty Contractor - Class D.</p>	12/16/2024
Q5	<p>Question: Bid Extension</p> <p>Will DEN please consider extending the bid date 1-2 weeks? With the short holiday week, and most offices being closed prior to the bid date it will be extremely difficult to collect all quotes, LOI's, and documentation required for the bid that week.</p> <p>Answer: The schedule has been extended via Addendum 2. The revised bid due date is now January 10, 2025.</p>	12/16/2024

No	Question/Answer	Question Date
Q6	<p>Question: List of Purposed Non-MWBE SUBS</p> <p>The Bidding Documents MWBE Responsiveness Requirements Section 5 - List of Purposed Subcontractors - refer that we list our Non-MWBE subcontractors on the DSBO form 1A along with our MWBE Subcontractors/Suppliers, but there is an Attachment 1, Part 4 list of Proposed Non-MWBE Subcontractors. Whis Bidding form do we list our Non-MWBE Subcontractors on?</p> <p>Answer: To comply with DSBO requirements, both Certified and Non-certified firms must be listed on Form 1-A (located in Attachment 2-MWBE Forms) as outlined in the Bid Submittal Requirements. Attachment 1 - Part 4 pertains to additional DEN solicitation requirements.</p>	12/16/2024
Q7	<p>Question: Electrical Wiring</p> <p>Please provide electrical drawings showing desired conduit paths and load requirements and design.</p> <p>Answer: The electrical design is pending. The electrical drawings are to be provided in future ASI.</p>	12/16/2024
Q8	<p>Question: Concrete Demolition</p> <p>Does the existing 7"-9" topping slab need to be GPR or X-rayed before drilling in anchors?</p> <p>Answer: See "Post-installed anchor notes" on S0.100. Note 2C states all existing reinforcing shall be located prior to installing new post-installed anchors.</p>	12/16/2024
Q9	<p>Question: Concrete Install</p> <p>Can we prep for and pour concrete during the day? Example: drill in anchor dowels, place rebar, and pour concrete</p> <p>Answer: Daytime work is acceptable with the condition that disruptive activities must be performed at night. Daytime activities should be coordinated with surrounding occupants to ensure minimal disruption.</p>	12/16/2024
Q10	<p>Question: Concrete Demolition</p> <p>During demolition and chipping of concrete slabs, will lanes be required to be shut down on the level below due to possible debris falling? Will lanes be shut down or will the contractor be required to install preventative measures?</p> <p>Answer: Protective measures must be installed beneath level 5 during slab demolition and chipping work according to the approved site specific safety plan. All drive lane and parking area closures require stakeholder coordination for nightly shutdown and reopening.</p>	12/16/2024
Q11	<p>Question: Bollard Install</p> <p>Please indicate on the plans which bollards are Vehicle and which are Warning. This is not an indication on the plans.</p> <p>Answer: Scope of work regarding bollards is per civil drawings and is limited to instances where existing bollards are impacted by concrete demolition. Existing bollards are to be removed, salvaged, and reinstalled at existing locations. Design team has no documentation confirming if existing bollards in scope of work are either Vehicular or Warning type bollards. For bidding purposes assume bollards to be reinstalled per detail 4/S3.001. GC to confirm existing type in field.</p>	12/16/2024

No	Question/Answer	Question Date
Q12	<p>Question: Concrete Install</p> <p>Will there be a load capacity on concrete trucks entering into the construction zones? Will a fully loaded 10CY concrete truck be permitted to enter?</p> <p>Answer: This is an item that the contractor's construction engineering team will need to evaluate as it relates to their construction means and methods. Historically, concrete trucks with 6 to 8 cubic yards have been permitted on the elevated parking structure framing.</p>	12/16/2024
Q13	<p>Question: Truncated Domes</p> <p>On the far West (W18 column line) and/or far East (E 18 column line), at the end of each crosswalk, new Truncated domes are indicated. Are these surface mounted, or should the demo be included to flush mount them?</p> <p>Answer: All truncated domes must be flush mounted.</p>	12/16/2024
Q14	<p>Question: Striping for Level 5 Domes & Ramps</p> <p>Line striping verbiage on Civil Drawings indicates 10' stripes and 30' gaps. The drawings suggest different segment lengths and gaps based on visual design. Please confirm line striping is to be 10' lengths with 30' gaps.</p> <p>Answer: Lane striping shall be 10' stripes with 30' gaps.</p>	12/16/2024
Q15	<p>Question: Pavement Markings Clarification</p> <p>Please confirm 30 day cure time requirement applies to this project for specification section 321723 part 3.2B. If required, the contract duration and/or phasing may need to be revised to allow for this requirement.</p> <p>Answer: Design team recommended a minimum of 28 days cure time before applying pavement markings and to follow manufacture's requirements. Last concrete pour per phase would need to cure within the specifications.</p>	12/20/2024
Q16	<p>Question: Demo Thickness</p> <p>Demolition plans CD.200-203 show "Existing Concrete to be Removed" with SF quantities, but does not specify the thickness of the concrete to be removed. Please provide the section detail and thickness on existing concrete to be removed so the full scope of work can be estimated properly.</p> <p>Answer: For the structural demolition, sheets SD2.360, SD2.370, SD2.375, SD2.380, SD2.390, and SD2.395 show color-coded areas with a legend in the top right corner of each sheet. The blue areas require the top of the existing concrete topping slab to be chipped down 1.5". The structural details on S3.001 align with this demolition depth. Elevation Response: Civil drawings show the extent of raised platform/island concrete removal. The typical thickness is 6" above the topping slab. Refer to structural plans and details for the thickness of the removal of the topping slab beneath these areas.</p>	12/20/2024
Q17	<p>Question: Electrical Vault demolition</p> <p>Provide the details of what replaces the demolished electrical vault space</p> <p>Answer: Fill the voids left by the demolished electrical vault space with concrete, ensuring coverage where the vault extends beyond the new concrete curb and ramps</p>	12/20/2024
Q18	<p>Question: Sign post for Level & Domes & Ramps Adjustmentsa</p> <p>Please provide a post mounting detail(there is not one on the structural plans 1/A9010).</p> <p>Answer: See 14/S3.001 for sign mounting requirements.</p>	12/20/2024

No	Question/Answer	Question Date
Q19	<p>Question: Heat tape - level 5 Domes and Ramps Adjustments Do any of the drains need heat trace tape?</p> <p>Answer: Refer to plumbing drawings general notes. The existing heat trace system is to remain and be reinstalled in modified piping. No new heat trace is included in the project.</p>	12/20/2024
Q20	<p>Question: Prevailing Wages Please confirm if this project is Highway or Heavy Building Wages for prevailing wages.</p> <p>Answer: It is Highway</p>	12/20/2024
Q21	<p>Question: Bid Item 4 The Lump Sum bid form within Addendum 1 contains bid item 4 for Masonry however no specifications are provided for Masonry for this project and no scope of work can be found within the plan set for Masonry on this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q22	<p>Question: Division 6 The Lump Sum bid form within Addendum 1 contains bid item for Division 6 for Wood, Plastics, and Composites however no specifications are provided for Division 6 for this project and no scope of work can be found within the plan set for Division 6 on this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q23	<p>Question: Division 8 The Lump Sum bid form within Addendum 1 contains bid item for Division 8 for Openings however no specifications are provided for Division 8 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q24	<p>Question: Division 9 The Lump Sum bid form within Addendum 1 contains bid item for Division 9 for Finishes however no specifications are provided for Division 9 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q25	<p>Question: Division 11 The Lump Sum bid form within Addendum 1 contains bid item for Division 11 for Equipment however no specifications are provided for Division 11 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024

No	Question/Answer	Question Date
Q26	<p>Question: Division 12</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 12 for Furnishings however no specifications are provided for Division 12 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q27	<p>Question: Division 13</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 13 for Special Construction however no specifications are provided for Division 13 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q28	<p>Question: Division 14</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 14 for Conveying Equipment however no specifications are provided for Division 14 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q29	<p>Question: Division 14</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 14 for Conveying Equipment however no specifications are provided for Division 14 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q30	<p>Question: Division 20</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 20 for Mechanical Support however no specifications are provided for Division 20 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q31	<p>Question: Division 21</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 21 for Fire Suppression however no specifications are provided for Division 21 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q32	<p>Question: Division 23</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 23 for HVAC however no specifications are provided for Division 23 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024

No	Question/Answer	Question Date
Q33	<p>Question: Division 25</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 25 for Integrated Automation however no specifications are provided for Division 25 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q34	<p>Question: Division 26</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 26 for Electrical however no specifications are provided for Division 26 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q35	<p>Question: Division 27</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 27 for Communications however no specifications are provided for Division 27 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q36	<p>Question: Division 28</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 28 for Electronic Safety and Security however no specifications are provided for Division 28 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q37	<p>Question: Division 31</p> <p>Please confirm if any scopes of work are associated with Division 31 of the specifications for Earthwork as none can be identified within the bidding documents provided. Please confirm if this is intended to be a zero cost bid item.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024
Q38	<p>Question: Division 33</p> <p>The Lump Sum bid form within Addendum 1 contains bid item for Division 33 for Utilities however no specifications are provided for Division 33 for this project. Please confirm this is intended to be a zero-cost bid item or identify the specific scope of work related to this bid item for the Level 5 Domes and Ramps project.</p> <p>Answer: Please see the revised LUMP SUM (FIXED FEE) BID FORM included in Addendum 3.</p>	12/20/2024

No	Question/Answer	Question Date
Q39	<p>Question: IFC Drawings Demo</p> <p>The IFC Drawing set appears to have two different sets of demolition plans for the project, reference sheet NO CD.200 and sheet SD2.360. Please confirm the depth of demolition for areas called out on sheets CD.200 through CD.203.</p> <p>Answer: For the structural demolition, sheets SD2.360, SD2.370, SD2.375, SD2.380, SD2.390, and SD2.395 show color-coded areas with a legend in the top right corner of each sheet. The blue areas require the top of existing concrete topping slab to be chipped down 1.5". The structural details on S3.001 align with this demolition depth. Elevation Response: Civil drawings show extent of raised platform/island concrete removal. Typical thickness is 6" above topping slab. Refer to structural plans and details for thickness of the removal of topping slab beneath these areas.</p>	12/20/2024
Q40	<p>Question: Baseline Schedule</p> <p>Under the IFB Bid Submittal requirements a baseline schedule is not listed, however it is referenced within the scope of work narrative. Please confirm if a schedule is required with the bid submittal.</p> <p>Answer: A schedule is being requested as part of the bid submission. Showing a duration of 186 calendar days including administrative and construction activities.</p>	12/20/2024
Q41	<p>Question: Typical Bollard</p> <p>Sheet number S3.001, details 8 and 4, differentiates between Typical Vehicle Bollard and Typical Warning Bollard however these details do not appear to be used within any of the plan set drawing packages. Please confirm which bollards for the project are to be built to detail 8 and which are to be built to detail 4 on sheet S3.001.</p> <p>Answer: Scope of work regarding bollards is per civil drawings and is limited to instances where existing bollards are impacted by concrete demolition. Existing bollards are to be removed, salvaged, and reinstalled at existing locations. Design team has no documentation confirming if existing bollards in scope of work are either Vehicular or Warning type bollards. For bidding purposes assume bollards to be reinstalled per detail 4/S3.001. GC to confirm existing type in field.</p>	12/20/2024
Q42	<p>Question: Joint Sealants</p> <p>Specification Division 7, Thermal and Moisture Protection, Section 079200 references Joint Sealants however it is not clear within the drawings what joint details are required for the new cast-in-place concrete features of the project. Drawing S0.100 references construction and control joints however specific joint details and locations cannot be found within the bidding documents. Please confirm locations and details of any concrete joints and sealants required for the project.</p> <p>Answer: Control joints are not required in the new topping slabs. Construction joint locations will be determined after coordinating with the selected contractor's construction sequencing.</p>	12/20/2024
Q43	<p>Question: Bid Disqualification</p> <p>Please confirm that zero cost bid items will not be grounds for bid disqualification.</p> <p>Answer: Zero cost bid items will not be grounds for bid disqualification. However, no zero-bid items should apply per the revised pricing document included in Addendum 3.</p>	12/20/2024

No	Question/Answer	Question Date
Q44	<p>Question: Phasing Plans</p> <p>In the Project phasing plan please confirm that all lanes of vehicle traffic between islands within a given phase will be allowed to be fully closed for the duration of work within that phase.</p> <p>Answer: All vehicle traffic lanes between islands can be fully closed during each phase of construction while work is taking place.</p>	12/20/2024
Q45	<p>Question: Quantities for MOT</p> <p>Please confirm what quantities of message boards, arrow boards and flagging hours will be required for the project as no information is provided within the specifications or plans for MOT requirements from DEN for the Level 5 Parking Garage Structure.</p> <p>Answer: The quantities of message boards, arrow boards and flagging's hours should be based on your schedule and while also meeting division 1 specifications SECTION 015525 – TRAFFIC CONTROL.</p>	12/20/2024
Q46	<p>Question: Night Shift Work</p> <p>Please confirm if all work for this project will be night shifts or if this requirement is only for the demolition scope of work within each phase.</p> <p>Answer: Daytime work is acceptable with the condition that disruptive activities must be performed at night. Daytime activities should be coordinated with surrounding occupants to ensure minimal disruption.</p>	12/20/2024
Q47	<p>Question: Contractor License</p> <p>Please confirm if the Contractor will be required to have a class A, B, C or D license for this project permit.</p> <p>Answer: The minimum license classification for 2024-COMMCON-0001263 is Specialty Contractor - Class D.</p>	12/20/2024
Q48	<p>Question: Concrete Mixer</p> <p>Please confirm if the Contractor can assume using full 10 CY concrete mixer trucks for placement of concrete for this project.</p> <p>Answer: This is an item that the contractor's construction engineering team will need to evaluate as it relates to their construction means and methods. Historically, concrete trucks with 6 to 8 cubic yards have been permitted on the elevated parking structure framing.</p>	12/20/2024
Q49	<p>Question: Incidental Costs</p> <p>The project specification states that the Contractor is responsible for all incidental costs due to relocating electrical, fire suppression, life safety and HVAC utilities for the scope of work. Please confirm what if any of these utilities have conflicts with the new design for the level 5 domes and ramps project.</p> <p>Answer: Scope of work has been coordinated with existing conditions based on documentation provided by DEN and Site Survey. Documents incorporate modifications found in conflict with proposed design. Design team has not had access to underside of 5th floor concrete deck due to suspended ceiling element.</p>	12/20/2024



Sample Agreement





Sky Blue Builders confirms that they accept all terms and conditions of the Sample Agreement as written in Section II-2, with no modifications or legal concerns.



EXHIBIT L

STRUCTURAL CALCULATIONS

202475736: SKY BLUE BUILDERS LLC

Level 5 Domes & Ramps Adjustments

**Incorporated by Reference as found in File #20250108
at the Denver Office of the Clerk and Recorder**