

CITY OF SARATOGA SPRINGS

Saratoga Road & 145 North Improvements

BIDDING DOCUMENTS

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ADVERTISEMENT FOR BIDS

CITY OF SARATOGA SPRINGS
SARATOGA SPRINGS, UTAH
SARATOGA ROAD & 145 NORTH IMPROVEMENTS

Sealed Bids for the construction of the **SARATOGA ROAD & 145 NORTH IMPROVEMENTS** project will be received by the **CITY OF SARATOGA SPRINGS** (OWNER), according to Drawings and Specifications prepared by CMT Technical Services (ENGINEER). The highlights of the scope of work are as follows:

The Project consists of roadway widening (two lane to five lane), mill-and-overlay, cement treating base course, and restriping the existing Saratoga Road & 145 North (approximately 2.0 miles). Demolition work includes removal of existing asphalt pavement, removal of one residential dwelling, removal of five wooden utility poles (by RMP), removal of existing concrete, curb, relocating utilities, street signs, etc. New construction work includes mill and overlay of existing asphalt pavement, cement treating the existing base course, road widening, signage, earthwork, installation of concrete curb & gutter, concrete sidewalk, concrete driveways, roadway striping, storm drain pipe and structures, transition from overhead to underground power (by RMP), new conduit and fiber optics, new traffic signal, extension of an existing concrete box culvert, adjusting surface utilities, and seeding. Bids will be received for a single prime Contract. Bids shall be on a lump sum and unit price basis, with additive alternate bid items as indicated in the Bid Form. The Issuing Office for the Bidding Documents is

Saratoga Springs Public Works Offices
213 N 900 E, Saratoga Springs, UT 84045
Phone: (801) 766-6506

Prospective Bidders may examine the Bidding Documents at the Issuing Office on Mondays through Thursdays between the hours of 8:00 a.m. to 6:00 p.m., and may obtain copies of the Bidding Documents from the Issuing Office. Bidding Documents also may be examined online at the Utah Public Procurement Place (U3P) website at Utah.bonfirehub.com.

Bid Documents will be available on or after Thursday, March 12, 2026. Questions related to the bid must be posted to the U3P website portal by Friday, March 27, 2026 at 5:00 p.m.

Bids will be received by the OWNER through the U3P website until 11:00 a.m. local time on Tuesday, April 7, 2026. The bids will then be opened and tabulated and a public virtual meeting will be held at 2:00 p.m. that same day to announce the preliminary results. Detailed instructions to attend this virtual meeting will be posted to the same U3P website.

OWNER requires the Project to be substantially completed by July 6, 2027 with final completion of the Project by August 6, 2027.

An optional pre-bid virtual conference will be held at 1:30 p.m. local time on Thursday, March 19, 2026, through Microsoft Teams at the following link:

Microsoft Teams meeting

Join: <https://teams.microsoft.com/meet/25518451017487?p=HXzQQbqI8e6Vd0Xp7v>

Meeting ID: 255 184 510 174 87

Passcode: CT3Df2iL

Attendance at the pre-bid conference is highly encouraged but is not mandatory.

Bid security shall be furnished in accordance with the Instructions to Bidders. The OWNER reserves the right to reject any or all bids; or to accept or reject the whole or any part of any bid; or to waive any information or technicality in any bid in the best interest of the OWNER. Only bids giving a firm quotation properly signed will be accepted.

+ + END OF ADVERTISEMENT FOR BIDS + +

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office* – The office from which the Bidding Documents are to be issued.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01 Complete sets of the Bidding Documents may be obtained from the Issuing Office in the number and format stated in the advertisement or invitation to bid.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within [14] days of Owner's request, Bidder shall submit (a) written evidence establishing its qualifications such as financial data, previous experience, and present commitments, and (b) the following additional information:
- A. [Evidence of Bidder's authority to do business in the state where the Project is located.]
- B. [Bidder's state or other contractor license number, if applicable.]
- C. [Subcontractor and Supplier qualification information; coordinate with provisions of Article 12 of these Instructions, "Subcontractors, Suppliers, and Others."]
- D. [Other required information regarding qualifications]
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidder is advised to carefully review those portions of the Bid Form requiring Bidder's representations and certifications.

ARTICLE 4 – SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 4.01 *Site and Other Areas*
- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or

storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

4.02 *Existing Site Conditions*

A. Subsurface and Physical Conditions; Hazardous Environmental Conditions

1. The Supplementary Conditions identify:
 - a. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site.
 - b. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
 - c. reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

B. Underground Facilities: Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site are set forth in the Contract Documents and are based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

C. Adequacy of Data: Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 5.06 of the General Conditions.

4.03 *Site Visit and Testing by Bidders*

- A. Bidder shall conduct the required Site visit during normal working hours, and shall not disturb any ongoing operations at the Site.
- B. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- C. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and

submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site.

- D. Bidder shall comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- E. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

4.04 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. As the General Conditions indicate, if an Owner safety program exists, it will be noted in the Supplementary Conditions.

4.05 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 5 – BIDDER'S REPRESENTATIONS

5.01 It is the responsibility of each Bidder before submitting a Bid to:

- A. examine and carefully study the Bidding Documents, and any data and reference items identified in the Bidding Documents;
- B. visit the Site, conduct a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfy itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C. become familiar with and satisfy itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work;
- D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings;
- E. consider the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of

- the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs;
- F. agree, based on the information and observations referred to in the preceding paragraph, that at the time of submitting its Bid no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;
 - G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - H. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
 - I. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work; and
 - J. agree that the submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 6 – PRE-BID CONFERENCE

- 6.01 A pre-Bid conference will be held at the time and location stated in the invitation or advertisement to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received less than seven days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of [5%] percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a certified check, bank money order, or a Bid bond (on the form included in the Bidding Documents) issued by a surety meeting the requirements of Paragraphs 6.01 and 6.02 of the General Conditions.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract Documents, furnished the

required contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults.

- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND "OR-EQUAL" ITEMS

- 11.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 11.02 All prices that Bidder sets forth in its Bid shall be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 A Bidder shall be prepared to retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of the Work if required by the Bidding Documents (most commonly in the Specifications) to do so. If a prospective Bidder objects to retaining any such Subcontractor, Supplier, or other individual or entity, and the concern is not relieved by an Addendum, then the prospective Bidder should refrain from submitting a Bid.
- 12.02 Subsequent to the submittal of the Bid, Owner may not require the Successful Bidder or Contractor to retain any Subcontractor, Supplier, or other individual or entity against which Contractor has reasonable objection.

- 12.03 The apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work:
- A. Base Estimate:
 - B. Bid Alternate 1:
 - C. Bid Alternate 2:
 - D. Bid Alternate 3:

If requested by Owner, such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, or other individual or entity. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder shall submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

- 12.04 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, or other individuals or entities. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.06 of the General Conditions.

ARTICLE 13 – PREPARATION OF BID

- 13.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 13.02 A Bid by a corporation shall be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown.
- 13.03 A Bid by a limited liability company shall be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.04 A Bid by an individual shall show the Bidder's name and official address.
- 13.05 A Bid by a joint venture shall be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 13.06 All names shall be printed in ink below the signatures.

- 13.07 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.08 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 13.09 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 – BASIS OF BID

14.01 *Lump Sum*

- A. Bidders shall submit a Bid on a lump sum basis as set forth in the Bid Form.

14.02 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity" (which Owner or its representative has set forth in the Bid Form) for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.03 *Allowances*

- A. For cash allowances the Bid price shall include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 15 – SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 7 of the Bid Form.
- 15.02 A Bid shall be received no later than the date and time prescribed and at the place indicated in the advertisement or invitation to bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the place indicated in the Advertisement for Bids.

- 15.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 16 – MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 16.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

ARTICLE 17 – OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, then the Owner will reject the Bid as nonresponsive; provided that Owner also reserves the right to waive all minor informalities not involving price, time, or changes in the Work.
- 19.02 If Owner awards the contract for the Work, such award shall be to the responsible Bidder submitting the lowest responsive Bid.
- 19.03 Evaluation of Bids
- A. In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner shall announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process

and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.

- 19.04 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 20 – BONDS AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the Agreement (executed by Successful Bidder) to Owner, it shall be accompanied by required bonds and insurance documentation.

ARTICLE 21 – SIGNING OF AGREEMENT

- 21.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder shall execute and deliver the required number of counterparts of the Agreement (and any bonds and insurance documentation required to be delivered by the Contract Documents) to Owner. Within ten days thereafter, Owner shall deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

SECTION 00 41 00

BID FORM

ARTICLE 1 – BID RECIPIENT

- 1.01 This Bid is submitted to: ***CITY OF SARATOGA SPRINGS***
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 30 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
 - A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

<u>Addendum No.</u>	<u>Addendum, Date</u>
_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related

reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

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

SARATOGA ROAD & 145 NORTH – BASE ESTIMATE					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
1	Mobilization	Lump	1		
2	Quality Control	Lump	1		
3	Traffic Control	Lump	1		
4	Erosion Control/SWPPP	Lump	1		
5	Survey Layout	Lump	1		
6	Survey As-Built with GIS	Lump	1		
7	Clearing and Grubbing	SF	650,000		
8	Asphalt/Concrete Sawcut	LF	2,100		
9	Asphalt Removal	SY	40,800		
10	Concrete Removal	SY	270		
11	Base Course Removal & Relocation	CY	3,100		
12	Curb & Gutter Removal	LF	350		
13	Traffic Sign Removal	Each	14		
14	Fence Removal	LF	7,700		
15	Wall Removal	LF	170		
16	Tree Removal	Each	12		
17	Relocate Existing Mailbox	Each	3		
18	Residential Building Removal & Utility Removal	Lump	1		
19	Wellhouse Building Removal & Cap/Abandon Well	Lump	1		
20	Export Undocumented Fill & Import Granular Borrow (Contingency Item)	CY	1,000		
21	5" Mill & Overlay Existing Asphalt (Including HMA)	SY	22,000		
22	Granular Borrow Fill	CY	19,500		
23	Untreated Base Course	CY	15,200		
24	Cement-treat existing base in place (6" depth)	SY	22,100		
25	Hot Mix Asphalt	Ton	26,500		
26	Soft Spot Repair (Contingency Item)	SY	9,500		
27	30" Curb & Gutter	LF	9,700		
28	Type Q Curb	LF	90		

SARATOGA ROAD & 145 NORTH – BASE ESTIMATE					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
29	5" Concrete Sidewalk	SF	29,700		
30	6" Drivable Concrete Sidewalk/Flatwork	SF	3,400		
31	Gravel Driveway (Untreated Base Course, 8" Depth)	SF	1,800		
32	6" Concrete w/ #4 Rebar at 12" O.C. (Canal)	SF	770		
33	Concrete Retaining Wall (4' Max Height)	LF	500		
34	Seeding	SY	14,100		
35	Striping	Lump	1		
36	Traffic/Street Sign	Each	51		
37	Fence Relocation	LF	6,400		
38	Custom Curb & Gutter & Low-Strength Concrete at RMP Steel Double-Deadend Pole	Lump	1		
39	Tactile/Truncated Dome Pad	Each	14		
Road & Excavation Subtotal					
40	12'x7' Switchgear Vault	Each	1		
41	3" Power Conduit	LF	750		
42	6" Power Conduit	LF	1,250		
43	1-D Conduit Bank (Duct Only)	LF	5,700		
44	Fiber (Pulled Through Existing 1-D Duct)	LF	3,100		
45	Relocate Existing Street Light	Each	1		
46	Relocate/Adjust Existing Irrigation Box To Grade	Each	5		
47	Utility Locate Potholing (Contingency)	Each	20		
48	8-30" Pipe Removal	LF	200		
49	Storm Drain / Utility Structure Removal	Each	10		
50	Box Culvert Extension (incl. collar & rebar dowels)	Lump	1		
51	Bevel Existing Wingwall	Lump	1		
52	Riprap (D50=10", 20" thick)	CY	50		
53	Adjust TSSD Structure/lid to Grade & Collar	Each	50		

SARATOGA ROAD & 145 NORTH – BASE ESTIMATE					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
54	Adjust Utility structure/lid to Grade & Collar	Each	100		
55	Adjust Water/Irrigation Valve to Grade & Collar	Each	75		
56	15" RCP (Class III)	LF	1,500		
57	18" RCP (Class III)	LF	1,000		
58	24" RCP (Class III)	LF	1,300		
59	30" RCP (Class III)	LF	65		
60	36" RCP (Class III)	LF	1,300		
61	36" Flared-End Outlet	Each	1		
62	4'x6' Catch Basin / Manhole Combo Box	Each	28		
63	Curb Inlet	Each	2		
64	5' Diameter Manhole	Each	8		
65	Stormwater Treatment Device (CDS5653-10-C O.A.E.)	Each	1		
66	8" PVC C900 Culinary Water	LF	70		
67	8" Ductile Iron Secondary Water	LF	120		
68	16" Ductile Iron Secondary Water	LF	120		
Storm Drain / Utilities Subtotal					
<hr/>					
69	Traffic Signal at Saratoga Road & 145 North Intersection	Lump	1		
Traffic Signal Subtotal					
<hr/>					
Total of All Unit Price Bid Items – Base Estimate					\$

SARATOGA ROAD & 145 NORTH – BID ALTERNATE 1					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
B1	Clearing and Grubbing	SF	140,000		
B2	Fence Removal	LF	2,150		
B3	Granular Borrow Fill	CY	4,300		
B4	Untreated Base Course	CY	3,000		
B5	Hot Mix Asphalt	Ton	4,200		
B6	Soft Spot Repair (Contingency Item)	SY	2,000		
B7	30" Curb & Gutter	LF	2,150		

SARATOGA ROAD & 145 NORTH – BID ALTERNATE 1					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
B8	Seeding	SY	2,200		
B9	Striping	Lump	1		
B10	Traffic/Street Sign	Each	3		
B11	Fence Relocation	LF	2,150		
B12	1-D Conduit Bank (Duct Only)	LF	2,150		
B13	Riprap (D50=10", 20" thick)	CY	20		
B14	Adjust Utility structure/lid to Grade & Collar	Each	5		
B15	15" RCP (Class III)	LF	270		
B16	30" RCP (Class III)	LF	60		
B17	30" Flared-End Outlet	Each	1		
B18	4'x6' Catch Basin / Manhole Combo Box	Each	7		
B19	5' Diameter Manhole	Each	1		
B20	Stormwater Treatment Device (CDS5653-10-C O.A.E.)	Each	1		
Bid Alternate 1 Subtotal					

SARATOGA ROAD & 145 NORTH – BID ALTERNATE 2					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
C1	Traffic Signal at 1100 West & 145 North Intersection	Lump	1		
Bid Alternate 2 Subtotal					

SARATOGA ROAD & 145 NORTH – BID ALTERNATE 3					
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
D1	Install Street Light (Poles & Luminaires City-Furnished)	Each	20		
D2	Power All Street Lights (Contractor Submittal Required)	Lump	1		
Bid Alternate 3 Subtotal					
Total of All Unit Price Bid Items – Base Estimate + Bid Alt 1 + Bid Alt 2 + Bid Alt 3					\$

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check;
 - B. List of Proposed Subcontractors (Section 00 45 16);
 - C. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;

ARTICLE 8 – DEFINED TERMS

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

ARTICLE 9 – BID SUBMITTAL

BIDDER: *[Indicate correct name of bidding entity]*

By: _____
[Signature]

_____ *[Printed name]*
(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
[Signature]

_____ *[Printed name]*

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail address: _____

Bidder's License No.: _____
(where applicable)

SECTION 00 43 13

BID BOND

BID BOND (PENAL SUM FORM)

Bidder Name: Address (<i>principal place of business</i>):	Surety Name: Address (<i>principal place of business</i>):
Owner Name: City of Saratoga Springs Address (<i>principal place of business</i>): 1307 N. Commerce Dr. #200 Saratoga Springs, UT 84045	Bid Project (<i>name and location</i>): Saratoga Road & 145 North Improvements Bid Due Date:
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
_____ (<i>Full formal name of Bidder</i>)	_____ (<i>Full formal name of Surety</i>) (<i>corporate seal</i>)
By: _____ (<i>Signature</i>)	By: _____ (<i>Signature</i>) (<i>Attach Power of Attorney</i>)
Name: _____ (<i>Printed or typed</i>)	Name: _____ (<i>Printed or typed</i>)
Title: _____	Title: _____
Attest: _____ (<i>Signature</i>)	Attest: _____ (<i>Signature</i>)
Name: _____ (<i>Printed or typed</i>)	Name: _____ (<i>Printed or typed</i>)
Title: _____	Title: _____
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION 00 45 13
CONTRACTOR'S QUALIFICATIONS AND EXPERIENCE

QUALIFICATIONS STATEMENT

**THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT
PERMITTED BY LAWS AND REGULATIONS**

1. SUBMITTED BY:

Official Name of Firm:

Address:

2. SUBMITTED TO:

3. SUBMITTED FOR:

Owner:

Project Name:

TYPE OF WORK:

4. CONTRACTOR'S CONTACT INFORMATION

Contact Person:

Title:

Phone:

Email:

5. AFFILIATED COMPANIES:

Name: _____

Address: _____

6. TYPE OF ORGANIZATION:

SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

PARTNERSHIP

Date of Organization: _____

Type of Partnership: _____

Name of General Partner(s): _____

CORPORATION

State of Organization: _____

Date of Organization: _____

Executive Officers:

- President: _____

- Vice President(s): _____

- Treasurer: _____

- Secretary: _____

LIMITED LIABILITY COMPANY

State of Organization:

Date of Organization:

Members:

JOINT VENTURE

Sate of Organization:

Date of Organization:

Form of Organization:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

Joint Venture Managing Partner

- Name:

- Address:

7. LICENSING

Jurisdiction: _____

Type of License: _____

License Number: _____

Jurisdiction: _____

Type of License: _____

License Number: _____

8. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise: _____

Minority Business Enterprise: _____

Woman Owned Enterprise: _____

Small Business Enterprise: _____

Other (_____): _____

9. BONDING INFORMATION

Bonding Company: _____

Address: _____

Bonding Agent: _____

Address: _____

Contact Name: _____

Phone: _____

Aggregate Bonding Capacity: _____

Available Bonding Capacity as of date of this submittal: _____

10. FINANCIAL INFORMATION

Financial Institution: _____

Address: _____

Account Manager: _____

Phone: _____

INCLUDE AS AN ATTACHMENT AN AUDITED BALANCE SHEET FOR EACH OF THE
LAST 3 YEARS

11. CONSTRUCTION EXPERIENCE:

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

YES NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

YES NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

YES NO

If YES, attach as an Attachment details including Project Owner's contact information.

12. SAFETY PROGRAM:

Name of Contractor's Safety Officer: _____

Include the following as attachments:

Provide as an Attachment Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) OSHA No. 500- Log & Summary of Occupational Injuries & Illnesses for the past 5 years.

Provide as an Attachment Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all OSHA Citations & Notifications of Penalty (monetary or other) received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Provide as an Attachment Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) list of all safety citations or violations under any state all received within the last 5 years (indicate disposition as applicable) - IF NONE SO STATE.

Provide the following for the firm listed in Section V (and for each proposed Subcontractor furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) the following (attach additional sheets as necessary):

Workers' compensation Experience Modification Rate (EMR) for the last 5 years:

YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____

Total Recordable Frequency Rate (TRFR) for the last 5 years:

YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____

Total number of man-hours worked for the last 5 Years:

YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____

Provide Contractor's (and Contractor's proposed Subcontractors and Suppliers furnishing or performing Work having a value in excess of 10 percent of the total amount of the Bid) Days Away From Work, Days of Restricted Work Activity or Job Transfer (DART) incidence rate for the particular industry or type of Work to be performed by Contractor and each of Contractor's proposed Subcontractors and Suppliers) for the last 5 years:

YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____
YEAR	_____	DART	_____

13. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on Owner's Project.

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS, IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: _____

BY: _____

TITLE: _____

DATED: _____

NOTARY ATTEST:

SUBSCRIBED AND SWORN TO BEFORE ME

THIS _____ DAY OF _____, 20__

NOTARY PUBLIC - STATE OF _____

MY COMMISSION EXPIRES: _____

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience).
2. Schedule B (Previous Experience).
3. Schedule C (Major Equipment).
4. Audited balance sheet for each of the last 3 years for firm named in Section 1.
5. Evidence of authority for individuals listed in Section 7 to bind organization to an agreement.
6. Resumes of officers and key individuals (including Safety Officer) of firm named in Section 1.
7. Required safety program submittals listed in Section 13.
8. Additional items as pertinent.

SCHEDULE A

CURRENT EXPERIENCE

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

Project Name	Owner's Contact Person	Design Engineer	Contract Date	Type of Work	Status	Cost of Work
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				
	Name: Address: Telephone:	Name: Company: Telephone:				

SECTION 00 45 16
LIST OF SUBCONTRACTORS

The bidder shall list below the names and business address of each subcontractor who will perform Work under this Contract in excess of five percent (0.05) of the total bid price and shall also list the portion of the work which will be done by such subcontractor. After the opening of proposals, no changes or substitutions will be allowed without the written approval of the Owner.
NOTE: Attach additional sheets if required.

<u>WORK TO BE PERFORMED</u>	<u>SUBCONTRACTOR'S NAME AND ADDRESS</u>
1. _____ _____	_____ _____
2. _____ _____	_____ _____
3. _____ _____	_____ _____
4. _____ _____	_____ _____
5. _____ _____	_____ _____
6. _____ _____	_____ _____

- END OF SECTION -

DOCUMENT 01 10 25S

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

- A. Measurement shall be made at the units or lump sums as described below. The Engineer will verify measurement and quantities.
- B. Unit Quantities: Quantities and measurements indicated in the Bid Form are mainly for contract purposes. If quantities and measurements supplied or placed in the Work vary significantly from contracted amounts, the Contractor may submit evidence of such for payment. Unless it can be clearly shown that additional quantities are outside the original scope of Work, the contract amounts will rule.
- C. Payment shall be made at the unit price or lump sum price bid in the bid schedule for the items described below; which shall be payment in full for all costs of furnishing labor, tools, equipment, materials, testing, etc., to complete the items of work as specified and as indicated on the drawings.

PART 2 – MEASUREMENT & PAYMENT

1.1 Mobilization – Bid Item 1

- A. Payment covers cost of mobilization, demobilization, installation of temporary facilities, and bringing all necessary construction equipment to the Site. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Percent of Original Contract Amount Earned	Percent of Amount Bid for Mobilization to be Paid
5	40
35	20
50	30
100	10

- B. Upon award, the CONTRACTOR shall immediately purchase all materials for the Project. These materials may be stored at the CONTRACTOR's yard or a location provided by the OWNER. The CONTRACTOR shall submit the invoices for the pre-purchased materials and mobilization cost to the OWNER for reimbursement prior to the beginning of construction. Once construction has begun, retainage will be held on each completed item. Payment shall cover the cost of storing the materials during the winter and transporting them to the job site in the spring.
- C. Payment covers cost of mobilization, demobilization, installation of temporary facilities, and bringing all necessary construction equipment to the Site.
- D. Payment also includes the cost of scheduling processes required per project Specifications.

1.2 Quality Control – Bid Item 2

- A. Payment for quality control will be paid on a percentage basis according to the percentage of the project completed. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Saratoga Road & 145 North Improvements

Percent of Project Completed	Percent of Amount Bid for Quality Control to be Paid
25	25
50	50
75	75
100	100

- B. Bid price includes the cost to provide the Contractor’s portion of the quality control requirements described in the specifications. It includes all the labor, equipment, and incidentals necessary to complete the quality control through construction.

1.3 Traffic Control – Bid Item 3

- A. Payment for traffic control will be paid on a percentage basis according to the percentage of the project completed. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Percent of Project Completed	Percent of Amount Bid for Traffic Control to be Paid
25	25
50	50
75	75
100	100

- B. Bid price includes developing a traffic control plan acceptable to the owner and engineer; flagging; furnishing, installing, maintaining, and moving all traffic control devices. It also includes cost of clearing, hauling, and proper disposal upon completion of the project.

1.4 Erosion Control/SWPPP – Bid Item 4

- A. Payment for erosion control / SWPPP will be paid on a percentage basis according to the percentage of the project completed. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Percent of Project Completed	Percent of Amount Bid for Erosion Control/SWPPP to be Paid
25	25
50	50
75	75
100	100

- B. Bid price includes creating and maintaining a SWPPP book acceptable to OWNER and with UPDES permitting and all associated record keeping and inspections to comply with city, state, and federal regulations on site. The cost of the UPDES permit shall be included. The bid price also includes furnishing, erecting, and maintaining erosion control devices during project construction, as indicated on the approved drawings, the UPDES permit, and as directed by the city’s inspector. It also includes providing dust control (spraying water) and street sweeping as required.

- C. Payment for this item will be compensation in full for furnishing all materials, labor, equipment, tools, and incidentals necessary to establish adequate sediment and erosion control, implement

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Best Management Practices (BMPs) for the protection of waterways from sediment laden runoff due to construction activities, and dust and mud control. This item shall include installation, maintenance and removal of sediment fencing, waddles, inlet protection, construction entrance, stockpile protection, port-a-johns, orange barrier fence, etc.

D. Prepared plan shall meet the requirement of the City's current Storm Water Management Plan

1.5 Survey Layout – Bid Item 5

A. Payment for survey layout will be paid on a percentage basis according to the percentage of the project completed. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Percent of Project Completed	Percent of Amount Bid for Survey Layout to be Paid
25	25
50	50
75	75
100	100

B. Bid price includes all survey control, layout, staking, and restaking to complete the project. This includes, but is not limited to survey mobilization, horizontal and vertical control, and staking construction limits, saw cuts, rough grading, drainage and utilities, curb and gutter, striping, and signs. This line item shall also include installation or replacement of all the street monuments, as shown on the right-of-way dedication plats or civil plans.

1.6 Survey As-Built with GIS – Bid Item 6

A. Measurement shall be made on a LUMP SUM BASIS.

B. Basis for payment: Bid price includes complete electronic documents and accepted by Saratoga Springs.

C. Bid price includes providing as-built GIS utility information on all utilities installed as part of this project, in a City-defined format.

D. This bid item includes all field survey/drafting/computer work necessary to deliver the data to Saratoga Springs.

1.7 Clearing and Grubbing – Bid Item 7 and B1

A. Measurement shall be made on a PER SQUARE FOOT BASIS.

B. Bid price includes clearing, removing, and disposing of existing plant life, vegetation (trees, stumps, shrubs, root systems, tree debris, etc.), and miscellany within the limits of disturbance.

C. Assume a depth of 6 inches for removal, to be exported off-site.

1.8 Asphalt/Concrete Sawcut – Bid Item 8

A. Measurement shall be made on a PER LINEAR FOOT BASIS.

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- B. Bid price includes sawcut of asphalt and concrete flatwork as necessary to accommodate road and site improvements, regardless of depth.
- 1.9 Asphalt and Concrete Removal – Bid Items 9 and 10
- A. Measurement shall be made on a PER SQUARE YARD BASIS.
 - B. Bid price includes removal, hauling, and disposal of existing asphalt/concrete materials necessary to complete work, regardless of existing depth.
- 1.10 Base Course Removal & Relocation – Bid Item 11
- A. Measurement shall be made on a PER CUBIC YARD BASIS.
 - B. Bid price includes all labor and equipment to excavate and relocate existing base course to line and grade within the limits identified in the project plans and specifications.
- 1.11 Curb and Gutter Removal – Bid Item 12
- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
 - B. Bid price includes removal, hauling, and disposal of existing concrete materials necessary to complete work, regardless of existing depth.
- 1.12 Traffic Sign Removal – Bid Item 13
- A. Measurement shall be made on a PER EACH BASIS.
 - B. Bid price includes removal, hauling, and disposal of pole, base, and existing traffic sign materials necessary to complete work.
- 1.13 Fence Removal – Bid Item 14 and B2
- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
 - B. Bid price includes removal, hauling, and disposal of existing fencing, fence posts, and fence gate materials necessary to complete work. Damaged fencing materials shall be replaced with new materials as part of this line item.
- 1.14 Wall Removal – Bid Item 15
- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
 - B. Bid price includes removal, hauling, and disposal of existing wall materials, reinforcements, anchors, fabrics, geogrids, and footings as necessary to complete work, regardless of existing depth. It also includes the cost of incidental work such as removal of interfering structures and obstructions, excess material, grading, surface restoration, shoring and bracing, and any incidentals for a complete job.
- 1.15 Tree Removal – Bid Item 16
- A. Measurement shall be made on a PER EACH BASIS.

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- B. Bid price includes removal, hauling, and disposal of existing trees, roots, branches, and stabilizing/landscaping of the removal area as necessary to complete the work.
- 1.16 Relocate Existing Mailbox – Bid Item 17
- A. Measurement shall be made on a PER EACH BASIS.
 - B. Bid price includes removal, relocating, and installing the mailbox, post, hardware, and concrete base with bedding and backfill in a new location per city standards and MUTCD and as described in the drawings, as necessary to complete the work. Any damaged parts must be replaced at CONTRACTOR’S expense. This item includes any type and size of mailbox.
- 1.17 Residential Building Removal & Utility Removal – Bid Item 18
- A. Measurement shall be made on a LUMP SUM BASIS.
 - B. Bid price includes demolition planning, dismantling, removal, hauling, and disposal of existing building materials and utility services, debris, foundation, footings, and all other parts of the structure as necessary to complete work, regardless of existing depth. It also includes the cost of incidental work such as backfilling existing basement with structural fill to match existing ground and surrounding grades, removal of interfering structures and obstructions, excess material, grading, surface restoration, shoring and bracing, and any incidentals for a complete job.
- 1.18 Wellhouse Building Removal & Cap/Abandon Well – Bid Item 19
- A. Measurement shall be made on a LUMP SUM BASIS.
 - B. Bid price includes demolition planning, dismantling, cutting, capping/plugging abandoned well, removal, hauling, and disposal of existing building materials and utility services, debris, excess pipe, valves, fittings, foundation, footings, and structures as necessary to complete work, regardless of existing depth. It also includes the cost of incidental work such as removal of interfering structures and obstructions, excess material, grading, surface restoration, shoring and bracing, and any incidentals for a complete job.
- 1.19 Export Undocumented Fill & Import Granular Borrow (Contingency Item) – Bid Item 20
- A. Measurement shall be made on a PER CUBIC YARD BASIS.
 - B. Bid price includes excavation and disposal of undocumented materials and import and placement of granular borrow to the limits identified in project plans and specifications.
 - C. Undocumented fill may be used as import if it is shown to meet requirements of granular borrow by geotechnical analysis reviewed and approved by Engineer.
- 1.20 5” Mill & Overlay Existing Asphalt (Including HMA) – Bid Item 21
- A. Measurement shall be made on a PER SQUARE YARD BASIS.
 - B. Bid price includes all labor, equipment, and materials to remove (Roto-Mill) and replace the top 5 inches of the existing asphalt as indicated in the Drawings and Specifications, including all incidentals to complete the work. This item includes aggregates, asphalt binder, hydrated lime, tack coat, and other additives, etc.

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- 1.21 Granular Borrow Fill– Bid Items 22 and B3 (Saratoga Springs Standards Section 02116 Fill and Backfill)
- A. Measurement shall be made on a PER CUBIC YARD BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and compact AASHTO A-1-a or better material to line and grade as directed in the drawings and specifications, including all incidentals to complete the work.
- 1.22 Untreated Base Course – Bid Items 23 and B4 (Saratoga Springs Standards Section 02621 Gravel Surfacing and Road Base)
- A. Measurement shall be made on a PER CUBIC YARD BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and compact AASHTO A-4 or better material to line and grade as directed in the drawings and specifications, including all incidentals to complete the work.
- 1.23 Cement-Treat Existing Base in Place (6” Depth) – Bid Item 24 (APWA Standard Specification 32 11 24 Pulverized Pavement Base Course)
- A. Measurement shall be made on a PER SQUARE YARD BASIS.
 - B. Bid price includes all labor, equipment, and materials to cement-treat base course to the depth specified as directed in the drawings and specifications, including all incidentals to complete the work.
- 1.24 Hot Mix Asphalt – Bid Item 25 and B5 (Saratoga Springs Standards Section 02641 Bituminous Paving)
- A. Measurement shall be on a PER TON BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and compact the material to line and grade as directed in the drawings and specifications, including all incidentals to complete the work. This item includes aggregates, asphalt binder, hydrated lime, and other additives, etc.
 - C. This item also includes installing a tack coat to the edges of existing asphalt when paving up against an asphalt saw cut.
- 1.25 Soft Spot Repair (Contingency Item) – Bid Item 26 and B6 (per Special Provision Section 02118S)
- A. Measurement shall be made on a PER SQUARE YARD BASIS.
 - B. Bid price includes excavation, removal, proper disposal, and replacement of soft earth as indicated in the drawings, specifications, and geotechnical report or as encountered in the field. Soft earth is defined as existing, native material prohibiting the contractor from properly preparing the subgrade and placing the granular borrow for the roadway section. It also includes placing, stabilizing, and compacting imported granular borrow and any other material to complete the work as well as any fabric requirements as identified by the geotechnical engineer and approved by the engineer. Soft spot stabilization shall only be performed when it prevents the contractor from performing the work and as approved by the ENGINEER.

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- 1.26 30" Curb and Gutter & Type Q Curb – Bid Items 27, 28, and B7 (Saratoga Springs Standards Section 03300 Cast-in-Place Concrete)
- A. Measurement shall be made on a PER LINEAR FOOT BASIS along the top back of curb.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and install the concrete curb & gutter as directed in the plans and specifications. It also includes curb transitions.
- 1.27 5" Concrete Sidewalk & 6" Drivable Concrete Sidewalk/Flatwork – Bid Items 29 and 30 (Saratoga Springs Standards Section 03300 Cast-in-Place Concrete)
- A. Measurement shall be made on a PER SQUARE FOOT BASIS.
 - B. Bid price includes all labor, equipment, and materials to complete the work as directed in the plans and specifications. This item includes ADA ramps and ramp flares, plowable ends and other concrete transitions.
- 1.28 Gravel Driveway (Untreated Base Course, 8" Depth) – Bid Item 31 (Saratoga Springs Standards Section 02621 Gravel Surfacing and Road Base)
- A. Measurement shall be made on a PER SQUARE FOOT BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and compact the material to line and grade as directed in the plans and specifications.
- 1.29 6" Concrete w/ #4 Rebar at 12" O.C. (Canal) – Bid Item 32
- A. Measurement shall be made on a PER SQUARE FOOT BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, and compact the material to line and grade as directed in the plans, specifications, city standards, and canal company standards. This item includes bedding, granular backfill borrow, epoxy-coated rebar reinforcements, joints, and other concrete transitions.
- 1.30 Concrete Retaining Wall (4' Max Height) – Bid Item 33
- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
 - B. Bid price includes all required earthwork, labor, equipment, and materials to import, haul, place, and install the retaining wall as directed in the plans and specifications including excavation, bedding, granular backfill borrow, joints, and reinforcement steel.
- 1.31 Seeding – Bid Item 34 and B8 (Saratoga Springs Standards Section 02727 Restoring Native Area)
- A. Measurement shall be made on a PER SQUARE YARD BASIS.
 - B. Bid price includes all labor, equipment, tools, supplies and materials required to complete this work item as specified, including but not limited to furnishing, hauling, placing, leveling and watering as necessary until project substantial completion. Seed mix shall be described in Saratoga Springs standard specifications, section 02727.

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1.32 Striping – Bid Item 35 and B9

- A. Measurement shall be made on a LUMP SUM BASIS.
- B. Basis for payment: Payment for striping will be paid on a percentage basis according to the percentage of this item completed. Payment will be made on a percentage of the LUMP SUM BASIS as follows:

Percent of Project Completed	Percent of Amount Bid for Striping to be Paid
25	25
50	50
75	75
100	100

- C. Bid price includes all labor, equipment, and materials to complete the work as directed in the plans and specifications and per the MUTCD. This item includes all striping of lines, legends, pictures, and text as shown on the plans. It also includes striping removal as indicated in the Drawings. Removal of unauthorized, smeared, or damaged markings will be the responsibility of the contractor and will not be reimbursed.

1.33 Traffic / Street Sign – Bid Item 36 and B10 (Saratoga Springs Standard Detail ST-28 Street Signs and Regulatory Signs)

- A. Measurement shall be on a PER EACH BASIS.
- B. Bid price includes all labor, equipment, and materials to furnish and install the sign, post, hardware, and concrete base with bedding and backfill per city standards and MUTCD and as described on the drawings, as necessary to complete the work. This item includes any type and size of road/street sign, including multiple signs or placards on a single post or installing a sign on an existing post or pole.
- C. See following table for traffic/street sign schedule:

Sign Description	Code	Size (in.)	Count
Speed Limit 35	R2-1	30 x 36	10
Type 4 Object Marker	OM4-3	18 x 18	8
Right Lane Must Turn Right	R3-7R	36 x 36	6
Begin Right Turn Lane Yield to Bikes	R4-4	36 x 30	2
Right Lane Ends	W9-1	36 x 36	2
Lane Ends Merge Left	W9-2L	36 x 36	3
"Bike Lane" Sign	R3-17	24 x 18	15
"Ends" Plaque	R3-17bP	24 x 9	3
Stop Sign	R1-1	30 x 30	1
Stop Sign	R1-1	36 x 36	1
Bicycles Must Exit	R9-22	24 x 30	1
School Crossing	S1-1	30 x 30	3
"Ahead" Plaque	W16-9P	24 x 12	1

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Diagonal Arrow	W16-7P	24 x 12	2
Saratoga Road & Pony Express Parkway Intersection Sign (Per each street name)	-	8 x 38	2
		Total	60

- 1.34 Fence Relocation – Bid Item 37 and B11 (Saratoga Springs Standards Section 02821 Vinyl Fencing)
- A. Measurement shall be on a PER LINEAR FOOT BASIS.
 - B. Bid price includes all work and materials necessary to relocate fencing and restore functionality to an equal or better condition than existing. Damaged fencing materials shall be replaced with new materials as part of this line item. Removal, hauling, and disposal of unused materials shall also be included with this line item.
- 1.35 Custom Curb & Gutter & Low-Strength Concrete at RMP Steel Double-Deadend Pole – Bid Item 38
- A. Measurement shall be on a LUMP SUM BASIS.
 - B. Bid price includes all labor, equipment, and materials to import, haul, place, compact the granular borrow and untreated base course to line and grade, and install the concrete curb & gutter with low-strength concrete slope protection in the vicinity of the RMP steel pole and foundation, as directed in the plans and specifications.
 - C. For additional information, see Plan Sheet C2.10 and Detail-13 on Sheet C4.3 of the Saratoga Road & 145 North Improvement plans by CMT Technical Services.
- 1.36 Tactile / Truncated Dome Pad – Bid Item 39
- A. Measurement shall be made on a PER EACH BASIS.
 - B. Bid price includes all labor, equipment, and materials to install the tactile / truncated dome according to the plans, specifications, and city standards. All incidentals shall be included to complete the work.
- 1.37 12’x7’ Switchgear Vault – Bid Item 40
- A. Measurement shall be made on a PER EACH BASIS.
 - B. Bid price includes all necessary labor, equipment, and materials to furnish and install per Rocky Mountain Power standards all necessary conduits and electrical vaults. Electrical connections are NOT included in this item, and will be performed by Rocky Mountain Power. Contractor will be responsible to coordinate as necessary with Rocky Mountain Power for electrical connections and any inspections required by Rocky Mountain Power.
- 1.38 3” Power Conduit & 6” Power Conduit – Bid Items 41 and 42
- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
 - B. Bid price includes all costs for labor, material, equipment, and appurtenances required to furnish and install trenched PVC conduit and wires per project plans and specifications including excavation, bedding, backfill, landscape repair, duct seal, pull tape, conduit sweeps, fittings,

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conduit proofing, and warning tape. Payment also includes protecting existing utility facilities revealed by blue stake, and coordinating with the conflicting utility for needed relocations.

- C. This item also includes potholing which will be separate from the Utility Locate Potholing Contingency item.

1.39 1-D Conduit Bank (Duct Only) – Bid Item 43 and B12

- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
- B. Bid price includes all costs for labor, material, equipment, and appurtenances required to furnish and install trenched conduit per project plans and specifications including excavation, bedding, backfill, landscape repair, duct seal, pull tape, traceable mule tape, conduit sweeps, fittings, conduit proofing, and warning tape. Payment also includes protecting existing utility facilities revealed by blue stake, and coordinating with the conflicting utility for needed relocations.
- C. This item also includes potholing which will be separate from the Utility Locate Potholing Contingency item.

1.40 Fiber (Pulled through Existing 1-D Duct) – Bid Item 44

- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
- B. Contractor shall provide all locate or trace safe wire, locate wire connecting hardware, hand holes/fiber vaults/pull boxes with appropriate covers/lids, and connecting hardware, pedestals and connecting hardware, fiber markers, locate isolation blocks and connecting hardware, bond bars and connecting hardware, ground rods, #10 ground wire, and similar related items. All sand bedding and shading material, gravel, backfill, asphalt roadway/driveway/etc. patch, concrete roadway/sidewalk/C&G/driveway/etc. material, replacement fences, lawn replacement, replacement landscaping, materials for all contractor damaged utility repairs, etc. These items include all material and labor required to repair, replace, or adequately patch any other property damaged by the construction. Items not requiring replacement include loss or damage to crops, gardens, trees, or ornamental flowers in the construction R.O.W. corridor necessary to the construction of the Project and not caused by the negligence of the contractor. The contractor will also provide all removal and disposal of R.O.W clearing material, construction spoil material, excess new material, or existing material moved or removed during construction of the project. The cost of extreme excess material waste and materials damaged during construction will be the responsibility of the contractor.
- C. Junction boxes will be incidental to the work and included in the lineal foot price. Junction boxes shall be on an interval of every 400 ft and at intersection curb returns.
- D. Include 100 ft of slack in each junction box.

1.41 Relocate Existing Street Light – Bid Item 45

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes removal, hauling, relocating, and reinstalling the street light, luminaire, post, base, hardware, and concrete base with bedding and backfill in a new location per city standards as described in the drawings, as necessary to complete the work. The bid price also includes all necessary coordination, labor, and equipment to relocated any associated wiring, junction boxes

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and fuses, and conduits, and to restore the site to its existing condition, including any incidentals to complete the work. Any damaged parts must be replaced at CONTRACTOR'S expense. This item includes any type and size of street light. Coordinate electrical work with the City and Rocky Mountain Power.

1.42 Relocate/Adjust Existing Irrigation Valve/Box to Grade – Bid Item 46

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to relocate or adjust the secondary water valve as indicated in the drawings. Price includes but is not limited to the following: Saw cutting and pavement removal, adjusting or reconstructing the valve structure, replacing the lid at the correct elevation, protection during paving, and any replacement parts to the structure, sufficient to complete the work.

1.43 Utility Locate Potholing (Contingency) – Bid Item 47

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all labor, equipment, and materials to pothole existing utilities if necessary to determine vertical alignment and depth. All utilities on the drawings are approximate and should be verified by the CONTRACTOR.
- C. To be used only with written approval prior to potholing.
- D. Potholes are to be temporarily filled with soil or covered with steel plates for traffic purposes.

1.44 8-30" Pipe Removal – Bid Item 48

- A. Measurement shall be made on a PER LINEAR FOOT BASIS measured along centerline of pipe.
- B. Bid price includes excavation, removal, hauling, and proper disposal of existing storm drain pipe and any associated end sections or other related parts. It also includes grouting holes created from pipe removal in drainage structures, backfilling, compaction of the trench, grading, restoring the surface to existing conditions, and all incidentals to complete the work.

1.45 Storm Drain / Utility Structure Removal – Bid Item 49

- A. Measurement shall be made on PER EACH BASIS.
- B. Bid price includes excavation, removal, hauling, and proper disposal of existing storm drain structure and related parts. It also includes backfilling, compaction, grading, restoring the surface to existing conditions, and all incidentals to complete the work.

1.46 Box Culvert Extension (Incl. Collar & Rebar Dowels) – Bid Item 50

- A. Measurement shall be made on a LUMP SUM BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to excavate the trench and furnish and install the new box culvert extension for the existing canal box culvert with suitable bedding and backfill to the finished grade or subgrade as indicated in the drawings. It also includes removal of interfering structures and obstructions, removal and disposal of excess

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material, fittings, connections, epoxy-coated rebar reinforcements, control of water in the trench, sub-grade stabilization, shoring and bracing, and any necessary incidentals for a complete job.

1.47 Bevel Existing Wingwall – Bid Item 51

- A. Measurement shall be made on a LUMP SUM BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to bevel the existing wingwall entrance of the canal box culvert as directed in the plans and specifications.

1.48 Riprap (D50 = 10", 20" Thick) – Bid Items 52 and B13

- A. Measurement shall be made on a CUBIC YARD BASIS.
- B. Bid price includes cost of furnishing, hauling, grading, shaping, and installation. Material used shall be a 10" median angular rock (D50). Rocks shall be keyed into the native earth and/or other rocks to lock them in place and complete the armoring. Rip rap gradations must be approved by the ENGINEER prior to placement. The rip rap shall be placed as located and detailed on the plans.

1.49 Adjust TSSD Structure / Lid to Grade & Collar – Bid Item 53

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to raise or lower the TSSD sanitary sewer manhole structure/lid elevation as indicated in the drawings. Price includes but is not limited to the following: Saw cutting and pavement removal, adjusting or reconstructing the manhole structure, replacing the lid at the correct elevation, pouring a concrete collar as specified, protection during paving, and any replacement parts to the structure, sufficient to complete the work.

1.50 Adjust Utility Structure / Lid to Grade & Collar – Bid Item 54 and B14

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to raise or lower the utility manhole structure/lid elevation as indicated in the drawings. Price includes but is not limited to the following: Saw cutting and pavement removal, adjusting or reconstructing the utility structure, replacing the lid at the correct elevation, pouring a concrete collar as specified, protection during paving, and any replacement parts to the structure, sufficient to complete the work.

1.51 Adjust Water/Irrigation Valve to Grade & Collar – Bid Item 55

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to raise or lower the water or irrigation valve lid elevation as indicated in the drawings. Price includes but is not limited to the following: Saw cutting and pavement removal, adjusting or reconstructing the valve structure, replacing the lid at the correct elevation, pouring a concrete collar as specified,

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protection during paving, and any replacement parts to the valve structure, sufficient to complete the work.

1.52 15", 18", 24", 30", and 36" RCP (Class III) – Bid Items 56 through 60, Bid Items B15 and B16

- A. Measurement shall be made on PER LINEAR FOOT BASIS measured along centerline of pipe with no deduction for fittings.
- B. Bid price includes all necessary labor, equipment, and materials to excavate the trench and furnish and install the storm drain pipe with suitable bedding and backfill to the finished grade or subgrade as indicated in the drawings. It also includes removal of interfering structures and obstructions, removal and disposal of excess material, pipe fittings, connections, control of water in the trench, sub-grade stabilization (per Saratoga Springs Standards Section 02116 Fill and Backfill), shoring and bracing, and any necessary incidentals for a complete job.
- C. This item also includes potholing which will be separate from the Utility Locate Potholing Contingency item.

1.53 Flared-End Outlet – Bid Item 61 and B17

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes the cost to furnish and install the type of concrete end section indicated on the plans. It also includes additional excavation outside the typical trench section due to the additional size of the structure; connection of the end section to existing or new pipe; adjustment of end section to final grade; placement and compaction of backfill; and any necessary incidentals for a complete job.

1.54 4'x6' Catch Basin / Manhole Combo Box – Bid Item 62 and B18

- A. Measurement shall be made on PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to install a complete drainage structure including but not limited to the following: Excavation, concrete, reinforcing steel, grate/lid and frame, grade rings, steps, bedding, backfill, and any other items required in the drawings and specifications. The structure must be able to handle H-20 loading. The connection to any pipe culvert or other drainage feature, including grouting and other incidentals, will be part of this construction and no separate payment will be made for this work.

1.55 Curb Inlet – Bid Item 63

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to install a complete drainage structure including but not limited to the following: Excavation, concrete, reinforcing steel, grate/lid and frame, grade rings, steps, bedding, backfill, and any other items required in the drawings and specifications. The structure must be able to handle H-20 loading. The connection to any pipe culvert or other drainage feature, including grouting and other incidentals, will be part of this construction and no separate payment will be made for this work.

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1.56 5' Diameter Manhole – Bid Item 64 and B19

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to furnish and install a complete drainage structure. Includes but not limited to the following: Excavation, concrete, reinforcing steel, grate/lid and frame, grade rings, steps, bedding, backfill, and any other items required in the drawings and specifications. The connection to any pipe culvert or other drainage feature, including grouting and other incidentals, will be part of this construction and no separate payment will be made for this work.

1.57 Stormwater Treatment Device (CDS5653-10-C O.A.E.) – Bid Items 65 and B20

- A. Measurement shall be made on a PER EACH BASIS.
- B. Bid price includes all necessary labor, equipment, and materials required to install a complete stormwater treatment structure including but not limited to the following: Excavation, concrete, reinforcing steel, grate/lid and frame, grade rings, steps, bedding, backfill, and any other items required in the drawings and specifications. The connection to any pipe culvert or other drainage feature, including grouting and other incidentals, will be part of this construction and no separate payment will be made for this work.

1.58 8" PVC C900 Culinary Water – Bid Item 66

- A. Measurement shall be made on a PER LINEAR FOOT BASIS.
- B. Bid price includes all necessary labor, equipment, and materials to excavate the trench and furnish and install the PVC C900 water pipe with suitable bedding and backfill according to the drawings and specifications. It also includes the cost of incidental work such as removal of interfering structures and obstructions, removal and disposal of excess material, pipe fittings and elbows, caps, reducers, connections, thrust blocking with necessary reinforcement, joint restraints, PE wrap, tape wrap, tracer wire, control of water in the trench, sub-grade stabilization, grading, surface restoration, shoring and bracing, disinfecting, flushing, testing, and commissioning, and any necessary incidentals for a complete job. There will be no payments for over-excavation unless approved by ENGINEER prior to excavating. Depths may vary in some locations in order to avoid other utilities and drainage pipes. The CONTRACTOR shall anticipate depths will increase in some areas, particularly at intersections.
- C. This item also includes valves which must be installed per city standards.
- D. This item also includes potholing which will be separate from the Utility Locate Potholing Contingency item.

1.59 8" Ductile Iron & 16" Ductile Iron Secondary Water – Bid Items 67 and 68

- A. Measurement shall be made on a PER LINEAR FOOT BASIS measured along centerline of pipe with no deduction for fittings.
- B. Bid price includes all necessary labor, equipment, and materials to excavate the trench and furnish and install the ductile iron secondary water pipe with suitable bedding and backfill according to the drawings and specifications. It also includes the cost of incidental work such as removal of interfering structures and obstructions, removal and disposal of excess material, pipe fittings and

Saratoga Road & 145 North Improvements

elbows, caps, reducers, connections, thrust blocking with necessary reinforcement, joint restraints, PE wrap, tape wrap, tracer wire, control of water in the trench, sub-grade stabilization, grading, surface restoration, shoring and bracing, disinfecting, flushing, testing, and commissioning, and any necessary incidentals for a complete job. There will be no payments for over-excavation unless approved by ENGINEER prior to excavating. Depths may vary in some locations in order to avoid other utilities and drainage pipes. The CONTRACTOR shall anticipate depths will increase in some areas, particularly at intersections.

- C. This item also includes valves which must be installed per city standards.
 - D. This item also includes potholing which will be separate from the Utility Locate Potholing Contingency item.
- 1.60 Traffic Signal at Saratoga Road & 145 North Intersection / Traffic Signal at 1100 West & 145 North Intersection – Bid Items 69 and C1
- A. Measurement shall be made on a LUMP SUM BASIS.
 - B. Basis for payment: Payment for signalization will be paid in full once the work is complete.
 - C. Bid price includes all necessary labor, equipment, and materials to furnish, install, and program all the signal modifications at the specified intersection according to the drawings and specifications. OWNER to furnish traffic signal poles (with all appurtenances) and pedestrian push-button poles. Contractor to furnish all other items. Contractor to install all items. This item includes removals with hauling and salvaging or disposal, connections, excavation, control of water in the excavation, sub-grade stabilization, shoring and bracing, backfill, compaction, site restoration, and any necessary incidentals to provide a fully functional intersection traffic signal.
- 1.61 Install Street Light (Poles & Luminaires City-Furnished) – Bid Item D1
- A. Measurement shall be made on a PER EACH BASIS.
 - B. Bid price includes all necessary labor, equipment, and materials to install the pole bases, light poles, luminaires, and any other necessary parts for a complete job according to the drawings and specifications. OWNER to furnish the light poles and luminaires. This item includes concrete and reinforcement, excavation, control of water in the excavation, potholing, removal of interfering structures and obstructions, removal and disposal of excess material, sub-grade stabilization, shoring and bracing, backfill, compaction, site restoration, coordination with the city and Rocky Mountain Power, and any necessary incidentals for a complete job.
- 1.62 Power All Street Lights (Contractor Submittal Required) – Bid Item D2
- A. Measurement shall be made on a LUMP SUM BASIS.
 - B. Bid price includes all necessary labor, equipment, and materials to furnish and install the transformer pads, meter bases, conduits, junction and fuse boxes and assemblies, and any other necessary parts for a complete job according to the drawings and specifications. This item includes the light pole connections, concrete and reinforcement, excavation, control of water in the excavation, potholing, removal of interfering structures and obstructions, removal and disposal of excess material, pipe fittings, connections, sub-grade stabilization, shoring and bracing, backfill, compaction, site restoration, coordination with the city and Rocky Mountain Power, and any necessary incidentals for a complete job.

Saratoga Road & 145 North Improvements

- C. Bid price includes street lighting design submittal to ensure that all electrical installations fully comply with the most recent edition of the National Electrical Code (NEC), as adopted and enforced by the Utah Division of Occupational and Professional Licensing (DOPL), and any other applicable local, state, or federal codes and standards. Street lighting shall be fed with copper wire no smaller than #6AWG. In no case shall a circuit be fed with smaller wire than NEC rules permit. Voltage drop on any branch circuit shall not exceed 3%. The street lighting Design Engineer shall be responsible for verifying and complying with all current Rocky Mountain Power (RMP) service requirements, including but not limited to conduit sizing, equipment specifications, and installation standards.

NON-LISTED ITEMS

1.63 Non-Listed Items

- A. The preceding list has been prepared in a best effort to include all items necessary for construction of the Project.
- B. The list is not all-inclusive of items that may be necessary for final completion of the Project. CONTRACTOR is responsible to include all construction items that may be necessary to complete the Project as shown on the Drawings and described in the Specifications. Any items not listed above shall be included in the item most closely related.
- C. Any items not listed above shall be included in the item most closely related.
- D. CONTRACTOR shall inform ENGINEER of any significant construction items that may be considered necessary to complete the project, but which are not included on the Plans and described in the Specifications. ENGINEER will evaluate the information and provide an addendum to include the information, if deemed necessary.

END OF DOCUMENT

CONTRACT FORMS

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: **City of Saratoga Springs**

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

Copy: Engineer

SECTION 00 52 00

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between City of Saratoga Springs ("Owner") and _____ ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The Project consists of roadway widening (two lane to five lane), mill-and-overlay, cement treating base course, and restriping the existing Saratoga Road & 145 North (approximately 2.0 miles). Demolition work includes removal of existing asphalt pavement, removal of one residential dwelling, removal of five wooden utility poles (by RMP), removal of existing concrete, curb, relocating utilities, street signs, etc. New construction work includes mill and overlay of existing asphalt pavement, cement treating the existing base course, road widening, signage, earthwork, installation of concrete curb & gutter, concrete sidewalk, concrete driveways, roadway striping, storm drain pipe and structures, transition from overhead to underground power (by RMP), new conduit and fiber optics, new traffic signal, extension of an existing concrete box culvert, adjusting surface utilities, and seeding.

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Saratoga Road & 145 North Improvements**.

ARTICLE 3—ENGINEER

3.01 The Owner will assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

3.02 The part of the Project that pertains to the Work has been designed by CMT Technical Services.

ARTICLE 4—CONTRACT TIMES

4.01 *Time is of the Essence*

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

4.02 *Contract Times: Dates*

A. The Work will be substantially complete on or before July 6, 2027 and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before August 6, 2027.

4.04 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. *Substantial Completion*: Contractor shall pay Owner **\$500** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$250** for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 1st day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
 - a. 90 percent of the value of the Work completed (with the balance being retainage).
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 100 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 *Consent of Surety*

- A. Owner will not make final payment or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

6.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of N/A percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

7.01 *Contents*

- A. The Contract Documents consist of all of the following:
 1. This Agreement.
 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 3. General Conditions.
 4. Supplementary Conditions.
 5. Specifications as listed in the table of contents of the project manual (copy of list attached).
 6. Drawings (not attached but incorporated by reference) with each sheet bearing the following general title: Saratoga Road & 145 North Improvements
 8. Addenda
 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid.

- b. Documentation submitted by Contractor prior to Notice of Award.
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
- a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 Contractor's Representations

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
 - 5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
 - 6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and

procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

Owner: City of Saratoga Springs

Contractor:

(typed or printed name of organization)

(typed or printed name of organization)

By: _____
(individual's signature)

By: _____
(individual's signature)

Date: _____
(date signed)

Date: _____
(date signed)

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
(individual's signature)

Attest: _____
(individual's signature)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

Address for giving notices:

Designated Representative:

Designated Representative:

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Address:

Phone: _____

Phone: _____

Email: _____

Email: _____

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

License No.: _____
(where applicable)

State: _____

- END OF SECTION -

SECTION 00 55 00
NOTICE TO PROCEED

Owner: City of Saratoga Sprins Owner's Project No.: 30-4000-764
Engineer: CMT Technical Services Engineer's Project No.: 110866.001
Contractor: _____ Contractor's Project No.: _____
Project: Saratoga Road & 145 North Improvements
Contract Name: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on _____, pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The date by which Substantial Completion must be achieved is July 6, 2027, and the date by which readiness for final payment must be achieved is August 6, 2027.

Before starting any Work at the Site, Contractor must comply with the following:

- Execute Contract document provided by the City.
- Apply for and receive an approved City Encroachment Permit.

Owner: **City of Saratoga Springs**
By (signature): _____
Name (printed): _____
Title: _____
Date Issued: _____
Copy: Engineer

SECTION 00 61 00
PERFORMANCE BOND

<p>Contractor</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>	<p>Surety</p> <p>Name: _____</p> <p>Address (<i>principal place of business</i>): _____</p>
<p>Owner</p> <p>Name: City of Saratoga Springs</p> <p>Mailing address (<i>principal place of business</i>): 1307 N. Commerce Dr. #200 Saratoga Springs, UT 84045</p>	<p>Contract</p> <p>Description (<i>name and location</i>): _____</p> <p>Contract Price: _____</p> <p>Effective Date of Contract: _____</p>
<p>Bond</p> <p>Bond Amount: _____</p> <p>Date of Bond: _____ <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.</p>	
Contractor as Principal	Surety
_____ <i>(Full formal name of Contractor)</i>	_____ <i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **None.**

SECTION 00 61 50
PAYMENT BOND

Contractor Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Saratoga Springs Mailing address <i>(principal place of business)</i> : 1307 N. Commerce Dr. #200 Saratoga Springs, UT 84045	Contract Description <i>(name and location)</i> : Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
By: _____ <i>(Full formal name of Contractor)</i> _____ <i>(Signature)</i>	By: _____ <i>(Full formal name of Surety) (corporate seal)</i> _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ _____ <i>(Signature)</i>	Attest: _____ _____ <i>(Signature)</i>
Name: _____ _____ <i>(Printed or typed)</i>	Name: _____ _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
 - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic’s lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of “labor, materials, or equipment” that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor’s subcontractors, and all other items for which a mechanic’s lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
 - 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
 18. Modifications to this Bond are as follows: **None.**

Contractor's Application for Payment

Owner: _____	Owner's Project No.: _____
Engineer: _____	Engineer's Project No.: _____
Contractor: _____	Contractor's Project No.: _____
Project: _____	
Contract: _____	
Application No.: _____	Application Date: _____
Application Period: From _____	to _____

1. Original Contract Price	\$	-
2. Net change by Change Orders	\$	-
3. Current Contract Price (Line 1 + Line 2)	\$	-
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-
5. Retainage		
a. _____ X \$ _____ - Work Completed	\$	-
b. _____ X \$ _____ - Stored Materials	\$	-
c. Total Retainage (Line 5.a + Line 5.b)	\$	-
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-
7. Less previous payments (Line 6 from prior application)		
8. Amount due this application	\$	-
9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: _____

Signature: _____ **Date:** _____

Recommended by Engineer	Approved by Owner
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____
Approved by Funding Agency	
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: _____
 Engineer: _____
 Contractor: _____
 Project: _____
 Contract: _____

Owner's Project No.: _____
 Engineer's Project No.: _____
 Contractor's Project No.: _____

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Original Contract											
					-		-		-		-
					-		-		-		-
					-		-		-		-
					-		-		-		-
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					-		-		-		-
					-		-		-		-
					-		-		-		-
Original Contract Totals					\$ -		\$ -	\$ -	\$ -		\$ -

Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner: _____
 Engineer: _____
 Contractor: _____
 Project: _____
 Contract: _____

Owner's Project No.: _____
 Engineer's Project No.: _____
 Contractor's Project No.: _____

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Change Orders											
					-		-		-		-
					-		-		-		-
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					-		-		-		-
Change Order Totals					\$ -		\$ -	\$ -	\$ -		\$ -
Original Contract and Change Orders											
Project Totals					\$ -		\$ -	\$ -	\$ -		\$ -

Stored Materials Summary

Contractor's Application for Payment

Owner: _____	Owner's Project No.: _____
Engineer: _____	Engineer's Project No.: _____
Contractor: _____	Contractor's Project No.: _____
Project: _____	
Contract: _____	

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

A	B	C	D	E	F	Materials Stored			Incorporated in Work			M	
						G	H	I	J	K	L		
Item No. (Lump Sum Tab) or Bid Item No. (Unit Price Tab)	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Description of Materials or Equipment Stored	Storage Location	Application No. When Materials Placed in Storage	Previous Amount Stored (\$)	Amount Stored this Period (\$)	Amount Stored to Date (G+H) (\$)	Amount Previously Incorporated in the Work (\$)	Amount Incorporated in the Work this Period (\$)	Total Amount Incorporated in the Work (J+K) (\$)	Materials Remaining in Storage (I-L) (\$)	
								-			-	-	
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								-			-	-	
Totals						\$	-	\$	-	\$	-	\$	-

SECTION 00 62 50

CERTIFICATION OF SUBSTANTIAL COMPLETION

Owner:	City of Saratoga Springs	Owner's Project No.:	30-4000-764
Engineer:	CMT Technical Services	Engineer's Project No.:	110866.001
Contractor:		Contractor's Project No.:	
Project:	Saratoga Road & 145 North Improvements		
Contract Name:			

This Preliminary Final Certificate of Substantial Completion applies to:

All Work The following specified portions of the Work:

Date of Substantial Completion: July 6, 2027

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: None As follows:

Amendments to Contractor's Responsibilities: None As follows:

The following documents are attached to and made a part of this Certificate:

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By (signature): _____

Name (printed): _____

Title: _____

CONDITIONS OF THE CONTRACT

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SECTION 00 72 00
GENERAL CONDITIONS

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the

- Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted

by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
1. does not conform to the Contract Documents;
 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments

during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings*: The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities*: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents*: Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
- a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings*: The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized*: Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.
 - d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.

2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;
 5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. The end of the correction period established in Paragraph 15.08;
 8. Any inspection, test, or approval by others; or
 9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.
- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design

professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.

- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to

Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

- 9.05 *Lands and Easements; Reports, Tests, and Drawings*
- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
 - B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
 - C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 9.06 *Insurance*
- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.
- 9.07 *Change Orders*
- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.
- 9.08 *Inspections, Tests, and Approvals*
- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.
- 9.09 *Limitations on Owner's Responsibilities*
- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- 9.10 *Undisclosed Hazardous Environmental Condition*
- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.
- 9.11 *Evidence of Financial Arrangements*
- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).
- 9.12 *Safety Programs*
- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
 - B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. Payment Becomes Due

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. Reductions in Payment by Owner

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all duly pending Change Proposals and Claims; and

- e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim, appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their

reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if

repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

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

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SECTION 00 80 00
SUPPLEMENTARY CONDITIONS
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SECTION 00 80 00
SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No suggested Supplementary Conditions in this Article.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:

- B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 *Copies of Documents*

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following new paragraph in its place:

- A. Owner shall furnish to Contractor one electronic portable document format (PDF) copy of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully signed counterpart of the Agreement).

2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol ("EDP" or "Protocol") for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions ("System Infrastructure") at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.
 - 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 40 MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating,

updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.

- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology (“IT”) for maintaining operations of its System Infrastructure during the Project, including coordination with the party’s individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
- c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
- d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
- f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- h. The Owner will operate a Project information management system (also referred to in this EDP as “Project Website”) for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph

will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:

- 1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;
- 2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;
- 3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and
- 4) Include any other Project Website attributes that may be pertinent to Contractor's use of the facility and pricing of such use.

C. *Software Requirements for Electronic Document Exchange; Limitations*

1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. *Requests by Contractor for Electronic Documents in Other Formats*

1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:
 - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for

Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
 - c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
 - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$[number] per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

SC-3.01 Delete Paragraph 3.01.C in its entirety.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.05 Delays in Contractor's Progress

SC-4.05 A Amend Paragraph 4.05.A by removing the following words:

"Contract Price"

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

5. *Weather-Related Delays*

- a. If “abnormal weather conditions” as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.
- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a “bad weather day”:
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds **0.25 inch** of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
 - ii) Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: **25** degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: **95** degrees Fahrenheit.
 - iii) Abnormal temperatures or rainfall conditions which created muddy conditions preventing construction vehicles from functioning in a typical manner or leading to the creation of excessive mud on public roads.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded daily by **City inspector or engineer using mobile phones providing weather data for the location of the project site.**
 - 3) Contractor shall anticipate **two** Foreseeable Bad Weather Days each month on weekdays.
 - 4) In each month, every Bad Weather day exceeding the number of foreseeable bad weather days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Geotechnical Investigation Proposed Well House Well No. 7	April 29, 2020	Results of two 31 feet deep investigative boreholes.

- F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely: **[If there are no such drawings, so indicate in the table.]**

Drawings Title	Date of Drawings	Technical Data
None		Technical Information

- G. Contractor may request from the Engineer copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents.

5.06 *Hazardous Environmental Conditions*

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

- 4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

None		

- 5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

None		

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:
1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).
 2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).

- SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:
1. After Substantial Completion, Contractor shall furnish a warranty bond issued in the form of EJCDC® C-612, Warranty Bond (2018). The warranty bond must be in a bond amount of **10** percent of the final Contract Price. The warranty bond period will extend to a date **1** year after Substantial Completion of the Work. Contractor shall deliver the fully executed warranty bond to Owner prior to or with the final application for payment, and in any event no later than 11 months after Substantial Completion.
 3. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.

6.02 *Insurance—General Provisions*

- SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:
1. Contractor may obtain worker’s compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker’s compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker’s compensation insurance for similar projects by the state within the last 12 months.

SC-6.02

6.03 *Contractor’s Insurance*

- SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:
- E. *Workers’ Compensation and Employer’s Liability:* Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance, including, as applicable, United States Longshoreman and Harbor Workers’ Compensation Act, Jones Act, stop-gap employer’s liability coverage for monopolistic states, and foreign voluntary workers’ compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers’ Compensation and Related Policies	Policy limits of not less than:
Workers’ Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman’s)	Statutory
Foreign voluntary workers’ compensation (employer’s responsibility coverage), if applicable	Statutory
Employer’s Liability	
Each accident	Statutory
Each employee	Statutory

Workers' Compensation and Related Policies	Policy limits of not less than:
Policy limit	Statutory

- F. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:
1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
 2. damages insured by reasonably available personal injury liability coverage, and
 3. damages because of injury to or destruction of tangible and real property wherever it is located, including loss of use resulting therefrom.
- G. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.
 6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of "insured contract" (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.

3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
4. Any exclusion of coverage relating to earth subsidence or movement.
5. Any exclusion for the insured's vicarious liability, strict liability, or statutory liability (other than worker's compensation).
6. Any limitation or exclusion based on the nature of Contractor's work.
7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.

I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$2,000,000
Bodily Injury and Property Damage—Each Occurrence	\$2,000,000

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000

- K. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of **\$3,000,000** after accounting for partial attribution of its limits to underlying policies, as allowed above.

- L. *M. Contractor's Professional Liability Insurance:* If Contractor will provide or furnish professional services under this *Contract*, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

N. 6.04 *Builder's Risk and Other Property Insurance*

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

F. *Builder's Risk Requirements:* The builder's risk insurance must:

1. be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks: fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).
 - a. Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
 - b. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake, volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance will be provided through other insurance policies acceptable to Owner and Contractor.
2. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of contractors, engineers, and architects).
4. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier). If this coverage is subject to a sublimit, such sublimit will be a minimum of **\$500,000**
5. extend to cover damage or loss to insured property while in transit. If this coverage is subject to a sublimit, such sublimit will be a minimum of **\$500,000**.
6. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
7. allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
8. include performance/hot testing and start-up, if applicable.

9. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.
10. include as named insureds the Owner, Contractor, Subcontractors (of every tier), and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of Paragraphs 6.04, 6.05, and 6.06 of the General Conditions, and this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds." In addition to Owner, Contractor, and Subcontractors of every tier, include as insureds the following:
 - a. City officers, officials, employees, and volunteers.
11. include, in addition to the Contract Price amount, the value of the following equipment and materials to be installed by the Contractor but furnished by the Owner or third parties:
12. If debris removal in connection with repair or replacement of insured property is subject to a coverage sublimit, such sublimit will be a minimum of **\$250,000**.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- H. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.
 1. The builder's risk policy (or if applicable the installation floater) will be subject to a deductible amount of no more than **\$25,000** for direct physical loss in any one occurrence.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 *Labor; Working Hours*

SC-7.03 Delete Paragraph 7.03.C in its entirety, and insert the following:

- C. In the absence of any Laws or Regulations to the contrary, Contractor may perform the Work on holidays, during any or all hours of the day, and on any or all days of the week, at Contractor's sole discretion.

SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. Owner shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-7.18.A Replace paragraph A with the following paragraph

- A. A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners,

employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible and real property, including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, assign, or agent, any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

ARTICLE 8—OTHER WORK AT THE SITE

No suggested Supplementary Conditions in this Article.

ARTICLE 9—OWNER’S RESPONSIBILITIES

9.13 Owner’s Site Representative

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

9.13 Owner’s Site Representative

- A. Owner will furnish an “Owner’s Site Representative” to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner’s Site Representative is not Engineer’s consultant, agent, or employee. Owner’s Site Representative will be a **City Inspector**. The authority and responsibilities of Owner’s Site Representative **shall be the same as is they were the Resident Project Representative**.

ARTICLE 10—ENGINEER’S STATUS DURING CONSTRUCTION

10.03 Resident Project Representative

SC-10.03 Add the following new subparagraph immediately after Paragraph 10.03.A:

1. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.B:

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
 1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings

(but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
 3. *Liaison*
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
 4. *Review of Work; Defective Work*
 - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02 if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Observe whether any Work in place appears to be defective.
 - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
 5. *Inspections and Tests*
 - a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
 - b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
 6. *Payment Requests:* Review Applications for Payment with Contractor.
 7. *Completion*
 - a. Participate in Engineer's visits regarding Substantial Completion.
 - b. Assist in the preparation of a punch list of items to be completed or corrected.
 - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
 - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
- 5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11—CHANGES TO THE CONTRACT

No suggested Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

No suggested Supplementary Conditions in this Article.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

No suggested Supplementary Conditions in this Article.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

No suggested Supplementary Conditions in this Article.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.01 Progress Payments

SC-15.01 Add the following new Paragraph 15.01.D:

- F. Owner shall make payment within 30 days of receipt of Engineer's recommendation of payment of a progress payment.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.02 Arbitration

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 Arbitration

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and

4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 *Attorneys' Fees*

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02. [Note: If there is no Paragraph 17.02, because neither arbitration nor any other dispute resolution process has been specified here in the Supplementary Conditions, then revise this to state "Add the following new Paragraph immediately after Paragraph 17.01" and revise the numbering accordingly].

17.03 *Attorneys' Fees*

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18—MISCELLANEOUS

No suggested Supplementary Conditions in this Article.

ARTICLE 19—

EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contactors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version. Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			

Key	
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)
PDF	Portable Document Format readable
DWG	Autodesk® AutoCAD .dwg format Version 2019 or more recent
DOC	Microsoft® Word .docx format Version Microsoft 365 or compatible
EXC	Microsoft® Excel .xls or .xml format Version Microsoft 365 or compatible

STATEMENT OF PROJECT SPECIFICATIONS

STANDARD SPECIFICATIONS:

The Standard Technical Specifications and Drawings for City of Saratoga Springs, Utah, Latest Ed. applies on this project as a Specification Book.

Link to the City of Saratoga Springs Standards and Specifications:
<http://www.saratogaspringscity.com> within the Engineering Departments Page.

Items not addressed by Saratoga Springs Standard Technical Specifications and Drawings are to meet the requirements of the Manual of Standard Specifications and Manual of Standard Plans, Utah Chapter APWA, Latest Ed.

The most restrictive Document as determined by the City of Saratoga Springs shall govern in the event there is a conflict. The Contractor shall abide by the decision.

Refer to "SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS"
for other project specific specifications.

SECTION 01200

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Price and Contract Time.
- C. Change procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED SECTIONS

- A. Document 00500 - Agreement: Contract Price, retainages, payment period, monetary values of unit prices.
- B. Document 00700 - General Conditions and Document 00800 - Supplemental General Conditions: Additional requirements for progress payments, final payment, changes in the Work.
- C. Document 00800 - Supplemental General Conditions: Percentage allowances for Contractor's overhead and profit.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in Section 27 of the General Conditions.
- B. Present required information in typewritten form.
- C. Form: Contract Form including continuation sheets when required.
- D. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.
- E. Execute certification by signature of authorized officer.

- F. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- G. Submit three copies of each Application for Payment.
- H. Include the following with the application:
 - 1. Transmittal letter as specified for Submittals in Section 01300.
 - 2. Construction progress schedule, revised and current as specified in Section 01300.
 - 3. Project record documents as specified in Section 01780, for review by the Owner which will be returned to the Contractor.
- I. When the City Engineer or City Inspector requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.04 MODIFICATION PROCEDURES

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The City Engineer or City Inspector will advise of minor changes in the Work not involving an adjustment to Contract Price or Contract Time as authorized by the Conditions of the Contract by issuing supplemental instructions in writing.
- C. Construction Change Directive: The City Engineer may issue a document, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. The document will describe changes in the Work, and will designate method of determining any change in Contract Price or Contract Time.
 - 2. Promptly execute the change in Work.
- D. Proposal Request: The City Engineer may issue a document which includes a detailed description of a proposed change with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. The Contractor shall prepare and submit a fixed price quotation within seven days.
- E. The Contractor may propose a change by submitting a request for change to the City Engineer, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Price and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01600.
- F. Computation of Change in Contract Amount:
 - 1. For change requested by the City Engineer for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 - 2. For change requested by the Contractor, the amount will be based on the Contractor's request for a Change Order as approved by the City Engineer.
 - 3. For pre-determined unit prices and quantities, the amount will be based on the fixed unit prices.
 - 4. For change ordered by the City Engineer without a quotation from the Contractor, the amount will be determined by the City Engineer based on the Contractor's substantiation of costs as specified for Time and Material work.

- G. Substantiation of Costs: Provide full information required for evaluation.
1. On request, provide following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: The City Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract on Contract Change Order Form.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- K. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
1. All closeout procedures specified in Section 01700.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01270

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Measurement and payment criteria applicable to Work performed under a unit price or lump sum price payment method.
- B. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED

- A. Unit Prices or Lump Sum Prices included on the Bid Form shall include full compensation for all required labor, Products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.03 UNIT QUANTITIES SPECIFIED

- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.
- B. Quantities indicated in the Bid Form will be the maximum amount of these items to be used, without prior approval, in writing, by the City Engineer or City Inspector. Over-runs of these items will not be paid for if prior approval was not received by the Contractor; and will be at the Contractor own expense, with no additional cost to the Owner.

1.04 MEASUREMENT OF QUANTITIES

- A. Measurement methods delineated in the individual specification sections complement the criteria of this section. In the event of conflict, the requirements of the individual specification section govern.
- B. Take all measurements and compute quantities. Measurements and quantities will be verified by the City Inspector or City Engineer.
- C. Assist by providing necessary equipment, workers, and survey personnel as required.
- D. Measurement Devices:
 - 1. Weigh Scales: Inspected, tested and certified by the applicable state Weights and Measures department within the past year.
 - 2. Platform Scales: Of sufficient size and capacity to accommodate the conveying vehicle.
 - 3. Metering Devices: Inspected, tested and certified by the applicable State department within the past year.
- E. Measurement by Weight:
 - 1. Concrete reinforcing steel, rolled or formed steel or other metal shapes will be measured by handbook weights. Welded assemblies will be measured by handbook or scale weight.
 - 2. Soil material will be measured by scale weight. Weights will be converted to volume measurements by use of soil density.
- F. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.

- G. Measurement by Area: Measured by square dimension using mean length and width or radius.
- H. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- I. Stipulated Sum/Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.
- J. Perform surveys required to determine quantities, including control surveys to establish measurement reference lines. Notify the City Inspector or City Engineer prior to starting work.
- K. Contractor 's Engineer Responsibilities: Sign surveyor's field notes or keep duplicate field notes, calculate and certify quantities for payment purposes.

1.05 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work which is incorporated in or made necessary by the Work and accepted by the City Inspector or City Engineer, multiplied by the unit sum/price.
- B. Payment will not be made for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from the transporting vehicle.
 - 4. Products placed beyond the lines and levels of the required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected Products.

1.06 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the City Inspector or City Engineer it is not practical to remove and replace the Work, the City Inspector or City Engineer, will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit sum/price will be adjusted to a new sum/price at the discretion of the City Engineer.
 - 2. The defective Work will be partially repaired to the instructions of the City Engineer, and the unit / sum price will be adjusted to a new sum/price at the discretion of the City Engineer.
- C. If, in the opinion of the Owner, it is not practical to remove and replace the Work, the Owner will direct one of the following remedies:
 - 1. The defective Work may remain, but the unit price or lump sum price will be adjusted to a new sum/price at the discretion of the Owner.
 - 2. The defective Work will be partially repaired to the instructions of the Owner, and the unit sum/price will be adjusted to a new sum/price at the discretion of the Owner.
- D. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
- E. The authority of the City Engineer to assess the defect and identify payment adjustment is final.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01282

PAYMENT

PART 1 GENERAL

1.01 RELATED SECTIONS

- A. Section 01200: Price and Payment Procedures.
- B. Section 01270: Unit Prices.

1.02 REFERENCES

- A. Rental Rate Blue Book for Construction Equipment
- B. Wall Street Journal

1.03 SCOPE OF PAYMENT

- A. The Owner shall fully compensate the Contractor as provided in the contract for:
 - 1. Furnishing all materials, labor, equipment, tools, transportation, and incidentals required for acceptable completion of the work.
- B. Lump sum or unit price:
 - 1. Consider payment as full compensation for all resources and incidentals necessary to complete the work.
- C. The Owner will not pay the Contractor for:
 - 1. Work that is in excess of that contained in the contract.
 - 2. Removal and replacement of defective work.
 - 3. Loss of anticipated profits.
- D. Partial payment or releasing of retainage does not relieve the Contractor of the obligation to correct all defective work or materials.

1.04 ELIMINATED ITEMS

- A. Accept the City Engineer's authority to eliminate contract items found to be unnecessary to complete the work.
- B. Request reimbursement for all costs incurred before notification of elimination.

1.05 VARIATION IN QUANTITIES AND SIGNIFICANT CHANGES IN CHARACTER OF WORK

- A. The Owner will pay the original contract unit prices for the accepted quantities of work or provide adjustment when the accepted quantities of work vary from the estimated quantities in the contract.
 - 1. The Owner will not allow compensation for any increased expenses, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense and subsequent loss of expected reimbursement or from any other cause.

1.06 DIFFERING SITE CONDITIONS, CHANGES, AND EXTRA WORK

- A. The Owner will pay for differing site conditions, changes, and extra work at either unit price or lump sum as stipulated in the order authorizing the work.
- B. The City Engineer uses contract unit prices if they are representative of the work to be performed.
 - 1. Unit price work will be reimbursed at the rates established in the contract.
 - a. These rates include compensation for the actual work and associated field indirect costs, home office overheads, profit, and all other costs incidental to the work unless otherwise defined in the contract.
- C. Negotiated lump sum or unit pricing for changes to the contract work will be based on the Contractor's estimate to do the work as validated by the City Engineer's review or independent cost estimate.
 - 1. Support the price with a detailed cost estimate. Include the following in the estimate:
 - a. Labor and equipment hours based on agreed upon productivity rates.
 - b. Use the actual cost of wages, benefits, burdens, and other labor related expenses for the labor rates applied to the estimated man-hours.
 - 1) Include certified accounting records verifying these costs or make them available upon request of the City Engineer.
 - c. Materials will be reimbursed at actual cost as determined by supplier invoices or estimates.
 - 1) Materials produced on site, such as granular borrow or UTBC will be reimbursed according to the labor and equipment rates used to produce such materials.
 - d. Use the actual cost of the equipment to the Contractor for equipment rates applied to the estimated equipment hours.
 - 1) Include certified accounting records verifying these costs or make them available upon request of the City Engineer.
 - 2. A markup of 15 percent will be paid on all expenses identified above. This markup compensates the Contractor for home office overheads, profit, and incidental costs.
 - 3. No other expenses will be compensated unless approved by the City Engineer.

1.07 COMPENSATION FOR EXCUSABLE DELAYS

- A. Document all costs claimed that result directly from a delay caused by the Owner.
 - 1. Use actual records kept in the usual course of business and measure increased ownership expenses according to generally accepted accounting principles.
 - a. Do not use equipment rental rate guides.
 - 2. The Owner will not compensate for the following:
 - a. Profit more than provided in accordance with this section
 - b. Loss of profit
 - c. Labor inefficiencies
 - d. Home office overhead exceeding that provided
 - e. Consequential damages, including, but not limited to, loss of bonding capacity, loss of bidding opportunities, and insolvency
 - f. Any indirect costs or expenses
 - g. Attorney's fees, claims preparation expenses, or litigation costs
- B. Compensable costs will be determined as follows:
 - 1. Direct Costs: Actual costs of the Contractor's workforce and equipment idled by the delayed activity.
 - a. Provide an accountant's certification of all costs.
 - 2. Field Indirect Costs: Actual costs for job-site supervision and field office operating costs, or other costs not directly associated with a particular work activity, for the period of delay.
 - a. Provide an accountant's certification of all costs.

3. Home Office Overhead: Unabsorbed home office costs that would have been paid for by the project billings if the work had not been delayed. To be entitled to home office overhead costs, demonstrate the delay-causing event resulted in financial harm.
 - a. No unabsorbed home office overheads will be reimbursed for the first five calendar days of the delay-causing event.
 - b. Calculate home office overhead cost from the sixth calendar day of the delay-causing event through its end if the project is between 0 and 95 percent complete.
 - c. Use the following formula to calculate home office overhead costs:

$$E = D [0.05(A)/C]$$

Where:

- 0.05 = Allowed markup for home office overhead
- A = Current contract value
- C = Total contract duration in calendar days, including approved time extensions
- D = Number of calendar days the critical path of the schedule is delayed due to the delay-causing event minus five.
- E = Total reimbursable amount for unabsorbed home office overhead

- d. No home office overheads will be reimbursed if the delay occurs after the project is 95 percent complete.
- C. The total reimbursable cost for a compensable delay is the sum of the daily agreed to costs for direct costs, field indirect costs, and unabsorbed home office overhead costs as computed in accordance with this article for the duration of the delay. No other costs, including profit, will be reimbursed.

1.08 FORCE ACCOUNT

- A. The City Engineer may require the Contractor to work on a force account basis when the Contractor and City Engineer are unable to negotiate an agreed upon price for changed or added work.
 1. Costs reimbursed in accordance with this section are considered full and complete compensation for:
 - a. All field indirect costs, including project management and supervision, field office operating costs, and all field office staff, except for time spent in immediate and direct supervision of the force account work.
 - b. All home office overhead costs and other indirect costs incurred as a result of the force account work.
 2. The Owner will not compensate for small tools costing \$200 or less or any other costs for which no specific allowance is provided in this section.
- B. Compensation for labor:
 1. The Owner will pay straight time for all hours worked. Overtime must have the prior written approval of the City Engineer.
 2. The Owner will pay for all labor, including direct supervision used in the actual and direct performance of the work at the wage or scale agreed upon in writing before beginning work.
 3. The Owner will reimburse for actual costs paid to or in behalf of workers, including health and welfare required by collective bargaining agreements or other employment contract generally applicable to the classes of labor employed on the work.
 4. The Owner will pay the Contractor an amount equal to 60 percent of the sum of the above items to cover the costs of bonds, insurance, taxes, and all other indirect costs in addition to the above costs.
 - a. Submit wage, payroll, and cost records pertaining to work paid for on a force account basis to the City Engineer. This information is open to inspection or audit.
 5. The Owner will reimburse for actual costs for subsistence and travel allowance.

C. Compensation for materials:

1. The Owner will pay for all materials accepted by the City Engineer and incorporated in the project at actual cost, including sales taxes and transportation charges plus 15 percent.
 - a. Materials such as saw blades, drill bits, etc., expended in the course of performing the work, excluding equipment, are considered incorporated in the project.
 - b. Include invoices with statements for all materials used. Certify by affidavit the cost of material furnished from Contractor's stocks when no invoice is available.

D. Compensation for equipment:

1. The Owner will not pay for pickup trucks used solely for transportation.
2. The Owner will pay for machinery or special equipment, excluding small tools, authorized by the City Engineer at an hourly rate obtained from the Rental Rate Blue Book for Construction Equipment. These hourly rental rates are determined by the monthly rental rate taken from the above-mentioned publication divided by 176. The total hourly rates have been computed from equipment costs currently in effect and do not include costs for operating personnel.

Obtain this publication through:

Equipment Watch

1735 Technology Drive, Suite 410

San Jose, CA 95110-1313

Phone: (800) 669-3282

Fax: (800) 224-3527

Refer to <http://www.udot.utah.gov/go/standardsreferences>.

The rates require adjustment by a Regional Factor and a Depreciation Factor with operating and standby rates established as follows:

- a. Operating Rate - For those hours the equipment is actually in use.
 - 1) Includes ownership and operating costs adjusted for Depreciation and Region factors.
 - b. Standby Rate - Compensation for equipment required to be at the work site but not operating. This rate is 50 percent of the adjusted ownership and operating costs computed above.
 - 1) The duration of allowable standby time is to be approved in writing by the City Engineer with a maximum of eight hours per day or 40 hours in a week.
3. The Owner will use the shown capacity that is closest to the manufacturer's when the Manufacturer's Rated Capacity falls between those shown in the Rental Rate Blue Book for Construction Equipment.
 4. Agree upon all rates in writing before beginning work.
 5. Obtain approval from the City Engineer for any equipment rental rates not provided before the start of any force account work.
 6. The Owner will allow move-in and move-out transportation cost for a piece of equipment not available on the job, if the particular piece of equipment is not moved onto the job under its own power.
 - a. The Owner will allow hourly operating rate for equipment moved to the site under its own power.
 - b. The Owner will pay these charges only once for any particular piece of equipment except in unusual circumstances that must be justified in writing and agreed to by the City Engineer.
 7. The Owner will add a 10 percent allowance on the first \$5,000 plus five percent of the balance in excess of \$5,000 for overhead for all rented or leased equipment paid for by invoices when the equipment used is specialized and not available in the Contractor's inventory and is rented or leased from an outside source.
 - a. Submit the rental or lease agreement to the City Engineer for approval where the rental rate charged exceeds the rate determined by the Rental Rate Blue Book for Construction Equipment.
 - b. The Owner will pay equipment-operating costs at the rate from the Rental Rate Blue Book for Construction Equipment for rented or leased equipment for each hour the equipment was actually used.

8. The equipment may be rented from a local source when the required equipment is in the Contractor's available inventory but not on the project site. The City Engineer may approve rental rates for equipment obtained from local sources when such rates are within 10 percent of the Rental Rate Blue Book for Construction Equipment. Move-in and move-out costs for Contractor owned equipment may be considered when comparing rental costs of equipment obtained from local sources when the equipment is to be used less than a week.
 - a. This option is only allowed when the cost of locally rented equipment is less than using Contractor owned equipment including move-in and move-out charges.
 - b. Such rentals must be supported by a cost analysis indicating the method used was the least expensive.
 - c. The Owner will reimburse for such equipment based on the Rental Rate Blue Book for Construction Equipment if the Contractor elects to rent equipment of a type that is in the Contractor's inventory and the rental costs exceed that allowed by this article.
- E. Subcontracts:
1. The Owner will pay an additional allowance equal to six percent for overhead for the subcontract for all force account work performed under an approved subcontract.
 2. The City Engineer will review each situation to determine that performing the work by subcontract is justified.
- F. Provide an itemized statement of the cost of the force account work at the City Engineer's request including:
1. Name, classification, date, daily hours designating straight time and overtime, total hours, rate, and extension for each laborer and supervisor. Payrolls may be used for some of this information.
 2. Designation, dates, daily hours, total hours, rental rate, and extension for each unit of machinery and equipment.
 3. Quantities of materials, prices, and extensions.
 4. Transportation of materials and equipment.
 5. Cost of fringe benefits and subsistence.
 6. Subcontractors.

1.09 PROGRESS PAYMENTS

- A. The Owner will make progress payments at least once each month as the work is progressing.
- B. More frequent payments may be made during any period when the Owner determines that the value of work performed during the period is sufficient to warrant a payment.
- C. Payments are based on estimates prepared by the City Engineer of the value of the work performed and materials in place under the contract and for payment for material on hand in accordance with this section.
- D. The Owner will not make any progress payment when the total value of the work done since the last estimate is less than \$1,000.
- E. The Owner will deduct and retains five percent from the total value of work until after the entire contract has been completed in an acceptable manner with the following exceptions:
 - a. Retention for subcontracted work is paid upon satisfactory completion and acceptance by the Owner.
 - b. The City Engineer may prepare a semi-final estimate with the consent of the Surety from which the Owner retains 1.5 percent of the original contract amount when no less than 95 percent of the work has been completed. The Owner certifies the remainder for payment, less all previous payments.
- F. The Owner will pay the Contractor within 14 calendar days after certification and approval of billings and estimates.

1. The Contractor and City Engineer agree to a Saturday partial estimate closing date. Succeeding partial estimates close on the same Saturday for each succeeding month.
2. The Contractor approves partial estimate before submission.

1.10 PAYMENT FOR MATERIAL ON HAND

- A. Present the delivery copies of invoices. The Owner may include advance payments for acceptable nonperishable materials purchased expressly for incorporation in the work when delivered in the vicinity of the project or stored in approved storage place in the partial payment invoice.
 1. The City Engineer determines the amount to be included in the estimate, but in no case will the amount exceed the value of the materials as shown on the delivery invoice or 75 percent of the in-place price, whichever is less.
 - a. When advance payments are made for acceptable material on hand, provide property insurance covering these materials, as described in Article 5 of the General Conditions of these Contract Documents, to protect the Owner from loss of these materials.
 2. Furnish evidence that the stockpiled materials are irrevocably obligated to the project when the approved storage location is other than the project site.
 3. The Owner will not pay when the invoice value of such materials, as determined by the City Engineer, amounts to less than \$2,000 or if materials are to be stored less than 30 calendar days, unless otherwise specified.
 4. Furnish the City Engineer certified paid invoices or a certified statement with a copy of the check showing payment within 60 calendar days following the date of the estimate invoice on which the stockpile material is to be paid by the Owner.
 5. Material will be removed from the next partial estimate as stockpiled materials if proper invoices showing payment to the supplier is not received.
- B. The Owner will not make any partial payment on living or perishable materials until incorporated as specified in the contract.
- C. The Owner will not pay for materials brought onto the site at the Contractor's election that may be incorporated into the project such as fuels, supplies, metal decking forms, ties, or supplies used to improve efficiency of operations.
- D. Approval of partial payment for stockpiled materials does not constitute final acceptance of such materials for use in completing items of work.
- E. The Owner will purchase at actual cost and without any percentage allowance for profit, materials delivered to the project in compliance with the contract or left unused due to changes in plans or variation in quantities, if the materials are not practicably returnable for credit.
 1. Purchased materials become the property of the Owner.
 2. Actual costs are based on invoice price plus transportation costs.
- F. Payment is limited to contract quantities unless ordered by the City Engineer. Assume responsibility for excess materials delivered to the project or aggregate produced beyond the contract amount without authority from the City Engineer.
- G. Surplus aggregates up to the contract quantities may be purchased provided the material is stockpiled where directed and meets specification requirements when stockpiled at the option of the Owner.
 1. The Owner will pay for material accepted on an agreed price basis, which price is normally the Contractor's production cost.
 2. The Owner pays a negotiated price for transporting and stockpiling materials at the directed location.

1.11 FINAL PAYMENT

- A. The City Engineer prepares the final estimate of work performed when the project has been accepted in accordance with the appropriate sections of the General Conditions and Supplemental General Conditions.
 - 1. The Owner will process the estimate for final payment if the Contractor approves the final estimate and does not object to the quantities within 30 calendar days of receiving the final estimate.
 - 2. The Owner will pay the entire sum due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the contract after approval of the final estimate by the Contractor.
- B. File a full, complete, and itemized written statement with the Owner justifying the adjustment within 30 calendar days after the final estimate is submitted for approval if additional payment is due from the Owner.
 - 1. Contractor waives all disputes not itemized.
 - 2. Submission of disputes by the Contractor will not be reason for withholding full payment of the total value of work shown on the City Engineer's final estimate.
 - 3. The Owner will evaluate the dispute.
 - a. The final estimate is revised accordingly under the terms of the contract if it is determined that additional payment is due.
 - b. The estimate as submitted is final if it is determined that no additional payment is due.
- C. All prior partial estimates and payments are subject to correction in the final estimate and payment.
- D. The Owner will complete and deliver the final estimate to the Contractor within 90 days of contract completion.

1.12 FUEL COST ADJUSTMENT

- A. Fuel cost adjustment is intended to limit the risk to the Contractor from potentially unstable fuel prices that might occur during the contract.
 - 1. This provision is not intended to estimate actual quantities of fuel used in construction operations or compensate for actual price variations experienced by the Contractor.
 - 2. The Owner will determine adjustments under the provisions of this section and presumes the Contractor has relied on these provisions when determining unit bid prices.
 - 3. The Contractor may invoke this provision at any time during the contract by written notification to the City Engineer.
 - a. Adjustments are then made on all prior and future partial estimates.
 - b. This provision becomes effective when it remains in effect for the duration of the contract.
- B. Abbreviations and Terms:
 - 1. Estimate Price for fuel (EPf): The fuel price established for the partial estimate period.
 - a. The Owner will determine the EPf on the first Monday of each month using the spot price per barrel for West Texas Intermediate (WTI) crude oil posted in the commodities and futures section of the Wall Street Journal. This spot price is averaged with spot prices posted for the previous three Mondays to establish the EPf.
 - b. The EPf remains in effect until the first Monday of the following month and is used for regular partial estimates closed before the first Monday of the following month.
 - 2. Base Price for fuel (BPf): The contract base fuel price, equal to the EPf in effect on the date of the contract bid opening.

3. Fuel Factor (FF): A combined diesel and gasoline usage factor established for purposes of calculating the Fuel Cost Adjustment.
 - a. Table 1 shows the items of work eligible for adjustment.
4. Fuel Cost Adjustment (FCA): The fuel cost adjustment in dollars determined in accordance with this article.

C. Determining FCA:

1. FCA only applies to acceptable work performed on major contract items and eligible items in Table 1 with an individual value of more than \$100,000, or as otherwise specified in Table 1, based on original contract quantities.
2. FCA does not apply to work added by change order.
3. FCA may be positive or negative depending on the changes or differences between the BPf and the EPf.
4. Work performed after the expiration of contract time and approved time extensions, the EPf will be limited to the lesser of:
 - a. The EPf for the estimate period when the work was performed.
 - b. The EPf for the last partial estimate period before the expiration of the contract time.

D. FCA formula:

1. When the EPf is more than 15 percent above the BPf:

$$FCA = \frac{[(EPf - BPf) - 0.05 BPf] Q (FF)}{42}$$

2. When the EPf is more than 15 percent below the BPf:

$$FCA = \frac{[(EPf - BPf) + 0.05 BPf] Q (FF)}{42}$$

3. Where:

Q = Quantity of acceptable work performed
 FF = Fuel factor for Q
 42 = Conversion of gallons of fuel per barrel of crude

- E. The Owner will determine the feasibility of proceeding with the remainder of the project and will notify the Contractor in writing if the project is to be terminated if the EPf increases by more than 50 percent from the BPf for an eligible item of work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01325

CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 REFERENCES

- A. AGC (CPM) - The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry; Associated General Contractors of America; latest edition.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM, O'Brien, McGraw-Hill Book Company; latest edition.

1.03 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days, as directed by the City Inspector or City Engineer.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment, as directed by the City Inspector or City Engineer.
- F. Submit the number of opaque reproductions the Contractor requires, plus one copy which will be retained by the City Engineer.
- G. Submit under transmittal letter form specified in Section 01300.

1.04 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one years minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.05 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Diagram Sheet Size: Maximum 22 x 17 inches or width required.
- C. Sheet Size: Multiples of 8-1/2 x 11 inches.
- D. Scale and Spacing: To allow for notations and revisions.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules for each stage of Work identified in Section 01100.
- E. Provide sub-schedules to define critical portions of the entire schedule.
- F. Include conferences and meetings in schedule.
- G. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- H. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, Products identified under Allowances, and dates reviewed submittals will be required from the City Engineer. Indicate decision dates for selection of finishes.
- I. Indicate delivery dates for owner-furnished products.
- J. Coordinate content with schedule of values specified in Section 01200.
- K. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with the City Inspector or City Engineer at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.05 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.

- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report, as directed by the City Inspector or City Engineer, to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect including the effects of changes on schedules of separate contractors.

3.06 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor 's project site file, to Subcontractors, suppliers, City Engineer, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary sanitary facilities.
- B. Temporary Controls: Barriers, enclosures, and fencing.
- C. Vehicular access and parking.

1.02 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required chemical or marine type toilets of acceptable type. Provide at time of project mobilization.
- B. Use of existing facilities is permitted, where acceptable to the owners of the facilities.
- C. Maintain daily in clean and sanitary condition.
- D. At end of construction, remove portable toilets completely.

1.03 BARRIERS

- A. Provide sufficient barriers at all unsafe places at or near construction areas and to protect existing facilities and adjacent properties from damage from construction operations; in all cases maintain safe passageways through construction areas.
- B. Provide protection for plants designated to remain. Replace damaged plants.
- C. Protect non-owned vehicular traffic, stored materials, and structures from damage.

1.04 FENCING

- A. Where required, provide temporary fences at construction areas to contain domestic animals.
- B. After project work is completed, the temporary fences shall be totally removed.

1.05 VEHICULAR ACCESS AND PARKING

- A. Coordinate access and haul routes with governing authorities and the Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Maintain at least one lane of traffic for local residences.
- D. Provide and maintain access to adjacent businesses as directed.
- E. Provide means of removing mud from vehicle wheels before entering streets.
- F. Provide temporary parking areas to accommodate construction personnel.

1.06 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary equipment, facilities, materials, prior to Substantial Completion inspection.

- B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01560

SAFETY STANDARDS AND ACCIDENT PREVENTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Safety Standards.
- B. Accident Prevention.

1.02 DEFINITIONS

- A. OSHA - Occupational Safety and Health Administration.
- B. UOSHA - Utah Occupational Safety and Health Administration.

1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Provide copy of OSHA 200 for past two years.
- C. Provide copy of citation history from OSHA for past two years.
- D. Provide copy of safety and health program.

1.04 SAFETY STANDARDS AND ACCIDENT PREVENTION

- A. Health and safety, as well as environmental concerns, are given top priority by the Owner.
- B. With respect to all work performed for this Contract, the Contractor shall:
 - 1. Provide a safe and healthful work place in accordance with all federal, state and local regulations.
 - 2. Conform to all rules and regulation of OSHA.
 - 3. Immediately notify the OWNER of ANY accident or job related illness that occurs on the job site.
 - 4. Notify UOSHA of any serious accident within 12 hours of such occurrence, as required by the Utah Administrative Code R574-102 13.1.1.
 - 5. Notify the OWNER of any sub-contractor retained to work on this project; and assure that they are informed of the Safety and Health Standards required by this Contract.
 - 6. Provide the OWNER with a traffic plan for the work zone and buffer zone. Plan must be approved by U.D.O.T. where necessary.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SPECIAL PROVISION

SECTION 02116M

FILL AND BACKFILL

Delete Article 3.02 B and replace with the following:

- B. Repair subgrade soft spots, as directed by the Engineer, in accordance with Section 02118 – Subgrade Soft Spot Repair.

END OF SECTION

SPECIAL PROVISION

SECTION 02118S

SUBGRADE SOFT SPOT REPAIR

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Remove and replace soft spots in the existing subgrade, as directed by the Engineer.

1.02 RELATED SECTIONS

- A. Section 02116: Fill and Backfill
- B. Section 02621: Gravel Surfacing and Road Base

1.03 RELATED SECTIONS

- A. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 10-lb (4.54 kg) Rammer and an 18-in.(457 mm) Drop
- B. AASHTO M 288 - Geotextile Specification for Highway Applications
- C. ASTM C 136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
- D. ASTM D 1883 - Standard Test Method for CBR (California Bearing Ratio) of Laboratory-Compacted Soils
- E. ASTM D 4318 - Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

PART 2 PRODUCTS

2.01 COARSE ROCK BACKFILL

- A. Use Granular Borrow or other angular, well-graded gravel such as a pit run or crushed rock meeting the following. Refer to Section 02116
 - 1. Minimum CBR of 30%; ASTM D 1883
 - 2. Maximum size of 4 inches; ASTM C 136
 - 3. Maximum 15% percent passing the no. 200 sieve; ASTM C 136
 - 4. Maximum liquid limit of 35; ASTM D 4318
 - 5. Maximum plasticity index of 15; ASTM D 4318

2.02 CAPPING ROCK BACKFILL

- A. Use Granular Borrow, Section 02116, or Untreated Base Course, Section 02621.

2.03 GEOTEXTILE FABRIC

- A. Use Woven Fabric meeting AASHTO M 288 Class 3, such as Mirafi 500X or Propex 200ST

PART 3 EXECUTION

3.01 REMOVE SOFT SUBGRADE

- A. Remove subgrade material at locations directed by the Engineer to the following depths

Standard Stabilization: 18 inches

Deep Stabilization: 24 inches

- B. Compact existing surface with plate compactor.

Standard Stabilization: Minimum 3 passes

Deep Stabilization: Minimum 4 passes

3.02 PLACE COARSE ROCK BACKFILL LAYER

- A. Place Coarse Rock in following lift configurations and seat with static roller, minimum 5 passes. Stop rolling if Coarse Rock layer shows signs of pumping.

Standard Stabilization: One 12-inch lift

Deep Stabilization: Bottom lift – 12 inches, top lift – 6 inches

3.03 PLACE CAPPING ROCK BACKFILL LAYER

- A. Place Capping Rock in one 6-inch lift and compact to minimum 85% of maximum laboratory density (AASHTO T-180). Stop rolling if Coarse Rock layer shows signs of pumping.

3.04 OPTIONAL USE OF GEOTEXTILE FABRIC

- A. At contractor's discretion, a geotextile fabric may be used to reduce excavation depth and backfill material thickness. Notify Engineer of intention prior to beginning excavation.
- B. After the excavation of the disturbed soils, spread the fabric across the bottom of the excavation and up the sides to the top of the excavation. Place in accordance with the manufacturer's recommendation, including proper overlaps.
- C. Place backfill material can then be placed over the fabric in as described above with the following thickness modifications

Standard Stabilization:

Coarse Rock Backfill – 8 inches

Capping Rock Backfill – 4 inches

Deep Stabilization:

Coarse Rock Backfill – 12 inches

Capping Rock Backfill – 6 inches

END OF SECTION

SECTION 02621M

GRAVEL SURFACING AND ROAD BASE

Delete Part 2 – PRODUCTS and replace with the following:

PART 2 PRODUCTS

2.1 UNTREATED BASE COURSE

A. Material: Use Untreated Base Course as per UDOT Specification 02721 – Untreated Base Course, with the following modifications:

1. Use UTBC with a minimum 90% CBR, tested at 95% ± 1% compaction.

END OF SECTION

SECTION 02727M

RESTORING NATIVE AREA

Delete Part 2 – PRODUCTS and replace with the following:

PART 2 PRODUCTS

2.1 MATERIALS

A. Restoring Native Grass Seed.

1. Native Grass Mix. Native grass seed shall be fresh, clean, new crop seed; mechanically premixed to the specified proportions. Native grass seed shall be a blend of the following seeds:

Type 3: Grass Mix (Short)	Broadcast	%
Blue Grama (<i>Bouteloua gracilla</i>)	4.0	30.77%
Sheep fescue (<i>festuca ovina</i>)	5.0	38.46%
Sandberg Bluegrass (<i>Poa sandbergii</i>)	4.0	30.77%
Totals	13.0	100.00%

2. Standards. Grass seeds shall comply with “Standards of Official Seed Analysis of North America,” published by the Associations of Official Seed Analysts, most recent edition; for 85% purity, 80% germination and 1% (maximum) weed seed (68% PLS).
3. Delivery. Seed shall be delivered to the site in original unopened containers, bearing the dealer’s guaranteed analysis and germination percentage and a certificate or stamp or release by a County agriculture commissioner.
4. Seed to be applied by hydraulic method shall be mixed with wood fiber mulch, fertilizer and polymer at 50 pounds per 100 square feet.

END OF SECTION

SECTION 01 11 00S

SUMMARY OF WORK

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Contract Description
- B. Specifications
- C. Coordination of Work
- D. CONTRACTOR Use of Premises
- E. OWNER Supplied Products
- F. Future Work.

1.2 CONTRACT DESCRIPTION

- A. Contract Description:

The Project consists of roadway widening (two lane to five lane), mill-and-overlay, cement treating base course, and restriping the existing Saratoga Road & 145 North (approximately 2.0 miles). Demolition work includes removal of existing asphalt pavement, removal of one residential dwelling, removal of five wooden utility poles (by RMP), removal of existing concrete, curb, relocating utilities, street signs, etc. New construction work includes mill and overlay of existing asphalt pavement, cement treating the existing base course, road widening, signage, earthwork, installation of concrete curb & gutter, concrete sidewalk, concrete driveways, roadway striping, storm drain pipe and structures, transition from overhead to underground power (by RMP), new conduit and fiber optics, new traffic signal, extension of an existing concrete box culvert, adjusting surface utilities, and seeding.

- B. Except as specifically noted otherwise, provide and pay for:
 - 1. Insurance and bonds.
 - 2. Labor, materials, and equipment.
 - 3. Tools, equipment, and machinery required for construction.
 - 4. Utilities and drainage required for construction.
 - 5. Temporary facilities.
 - 6. Traffic control and erosion control measures.
 - 7. Other facilities and services necessary for proper execution and completion of the Work.

- C. Secure and pay for all permits including excavation permits, Utah Department of Transportation encroachment permits, and government fees and licenses.
- D. Comply with codes, ordinances, regulations, orders, and other legal requirements of public authorities having bearing on the performance of the Work.

1.3 SPECIFICATIONS

- A. CONTRACTOR shall comply with the Standard Technical Specifications and Drawings for City of Saratoga Springs, Utah, updated January 2025, the 2017 APWA Utah Chapter 2017 Manual of Standard Specifications, and the Supplemental Specifications and Special Provisions provided herein.

1.4 COORDINATION OF WORK

- A. Maintain overall coordination of the Work.
- B. Obtain construction schedules from each subcontractor, and require each subcontractor to maintain schedules and coordinate modifications.
- C. Coordinate traffic closures with ENGINEER on a weekly basis.
- D. Attend weekly progress/coordination meetings with OWNER, ENGINEER, and affected parties.
- E. Maintain traffic flow of all travel lanes at all times, unless otherwise approved by the OWNER, ENGINEER, and UDOT (if applicable). Flagging and other traffic control devices will be provided and maintained by the CONTRACTOR as required. Contractor shall submit a traffic control plan stamped and signed by a registered engineer.
- F. The CONTRACTOR is responsible to maintain water service as much as possible for the duration of the project. CONTRACTOR shall notify local residences or businesses no less than 24 hours prior to any disruption of water supply. Periods of interrupted water supply to local residences or businesses should not exceed eight (8) hours at any time.

1.5 CONTRACTOR USE OF PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Residential access (if applicable).
- B. Coordinate use of site and premises under direction of OWNER.

- C. CONTRACTOR is responsible for the protection and safekeeping of materials and products stored within the premises.
- D. Additional storage or work areas to complete the Work shall be obtained and payed for by the CONTRACTOR.

1.6 OWNER SUPPLIED PRODUCTS

- A. Traffic signal poles & pedestrian push-button poles.
- B. Street Light post & post base.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

BID SPECIFIC SPECIAL PROVISIONS

PART 1: GENERAL PAYMENT CONSIDERATIONS

Payment for the various items of the bid sheets, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles; and for all labor operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction, including safety and health requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

PART 2: RIGHT OF REJECTION

The Project Engineer, acting for the Owner, shall have the right, at all times and places, to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the work at the site. If the Project Engineer or Inspector, through an oversight or otherwise, has accepted materials or work which is contrary to the Contract Documents, such material, no matter in what stage or condition of manufacture, delivery, or erection, may be rejected by the Project Engineer for the Owner.

PART 3: LIMITATION OF OPERATIONS

3.1 ITEMS OF WORK

The items of work to be completed with this project shall be limited to those items specifically included in the Bid Schedule.

PART 4: INTENT

It is the intent of these Contract Documents to describe the work, functionally complete, to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may be reasonably inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any government authority, whether such reference be specific or by implication, shall mean the latest standard specifications, manual codes, or laws or regulations in effect at the time of opening of bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically incorporated by reference in the Contract Documents)

shall be effective to change the duties and responsibilities of the Owner, the Contractor, or the Project Engineer or any of their consultants, agents, or employees from those set forth in the Contract Documents.

NOTE: If, during the performance of the work, the Contractor finds a conflict, error, or discrepancy in the Contract Documents, the Contractor shall so report to the Project Engineer in writing at once and before proceeding with the work affected thereby, shall obtain a written interpretation, clarification, or correction from the Project Engineer.

PART 5: ORDER OF PRECEDENCE

In resolving conflicts resulting from conflicts, errors, or discrepancies in any of the following Contract Documents, the order of precedence shall be as follows:

1. Change Orders
2. Agreements
3. Contractor's Bid (bid form)
4. Bid Specific Special Provisions (Drawings)
5. Supplementary General Conditions
6. Standard Technical Specifications and Drawings for City of Saratoga Springs, Utah
7. APWA Manual of Standard Specifications
8. State of Utah (UDOT) Standard Specifications for Road and Bridge Construction
9. State of Utah (UDOT) Traffic Signal and Lighting Design

PART 6: CONSTRUCTION LIMITS

1. LIMITATION OF OPERATIONS

- a. Do not disturb active irrigation/agricultural operations located to the east of existing 800 West, between 1200 North and Talus Ridge Drive. Approximate extents are shown on the project plan drawings grading extents have been designed intended to avoid these areas.
 - i. Contractor shall notify Owner if during project Work, the possibility of disturbing these active irrigation/agricultural operations arises, to discuss potential Work modifications.
 - ii. Do not perform any modified work without approval of the Engineer.

TECHNICAL SPECIFICATIONS

APPENDIX



ENGINEERING • GEOTECHNICAL • ENVIRONMENTAL (ESA I & II) •
MATERIALS TESTING • SPECIAL INSPECTIONS •
ORGANIC CHEMISTRY • PAVEMENT
DESIGN • GEOLOGY

GEOTECHNICAL ENGINEERING STUDY

Saratoga Road and 145 North Road Widening and Improvements

Saratoga Springs, Utah 84321
CMT PROJECT NO. 21527

FOR:
Saratoga Springs Public Works
213 N. 900 E.
Saratoga Springs, Utah 84045

September 18, 2024

September 18, 2024

Mr. Jeremy Lapin, PE
Saratoga Springs Public Works
213 N. 900 E.
Saratoga Springs, Utah 84045

Subject: Geotechnical Engineering Study
Proposed Saratoga Road and 145 North Street Widening Improvements
4,000 Feet North and 5,500 East of Intersection of Saratoga Road and 145 North Street
Saratoga Springs, Utah 84045
CMT Project Number: 21527


Mr. Lapin:

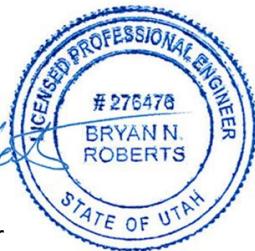
Submitted herewith is the report of our geotechnical engineering study for the referenced roadway widening project. This report contains the results of our findings and an engineering interpretation of the results with respect to the available project characteristics. It also contains recommendations to aid in the design and construction of the earth related phases of this project.

On February 26, and 27, 2024 and on August 23, 2024, a CMT Technical Services (CMT) staff professional was on-site and observed the drilling of 17 bore holes extending to depths of about 11.5 to 31.5 feet below the existing ground surface along the proposed widening alignments.

We appreciate the opportunity to work with you at this stage of the project. CMT offers a full range of Geotechnical Engineering, Geological, Material Testing, Special Inspection services, and Phase I and II Environmental Site Assessments. With offices throughout Utah, Idaho, Arizona, Colorado and Texas, our staff is capable of efficiently serving your project needs. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at 801-590-0394.

Sincerely,
CMT Technical Services


Bryan N. Roberts, P.E.
Senior Geotechnical Engineer



Reviewed by:



Andrew M. Harris, P.E.
Geotechnical Division Manager

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1.0 INTRODUCTION

1.1 General

CMT Technical Services (CMT) was retained to conduct a geotechnical subsurface study for the proposed roadway widening improvements comprised of about 4,000 lineal feet of Saratoga Road and about 5,500 lineal feet of 145 North in Saratoga Springs, Utah as shown in the **Exhibit 1 -Vicinity Map** below.



EXHIBIT 1-VICINITY MAP

1.2 Objectives, Scope and Authorization

The objectives and scope of our study were planned with respect to the Request for Proposal titled “Saratoga Springs, Saratoga Road and 145 North Widening Project” and the associated CMT proposal for services. In general, for the geotechnical study the objectives were to define and evaluate the subsurface soil and groundwater conditions along the edge of the existing roadways and provide appropriate earthwork and utility recommendations to be utilized in the design and construction of the proposed improvements.

In accomplishing these objectives, our scope of work has included performing field exploration, which consisted of the drilling/logging/sampling of 17 bore holes along the pavement edges, performing laboratory testing on representative samples of the subsurface soils collected in the bore holes, and conducting an office

program, which consisted of correlating available data, performing engineering analyses, and preparing this summary report.

1.3 Project Understanding

We understand that widening of Saratoga Road and 145 North is currently being planned. Saratoga Road is currently a two-lane collector road that will be widened to a five-lane minor arterial for about 4,000 feet north of the intersection of Saratoga Road with 145 North. The new alignment will have two traffic lanes in each direction, a center two-way left-turn lane, and sidewalks. Currently 145 North Street, is a two-lane connector and plans are to widen this street for about 5,500 feet to the east of Saratoga Road and consist of a three-lane collector with curb and gutter and some sidewalks. Further, the intersection of 145 North and Saratoga Road is to be signalized. Traffic signals are anticipated to be a standards UDOT design and therefore geotechnical design parameters are not provided herein but may be provided upon request.

Site development will require some earthwork in the form of minor cutting and filling to achieve similar grade.

2.0 FIELD EXPLORATION

2.1 General

In order to define and evaluate the subsurface soil and groundwater conditions, 17 bore holes were drilled, along the existing roadways, to depths of approximately 11.5 to 31.5 feet below the existing ground surface. The locations of the bore holes are shown on **Figure 1a and 1b, Site Plan**, included in the Appendix. The field exploration was performed under the observation of an experienced member of our geotechnical staff. Upon completion of the field investigation, the bore holes were backfilled with auger cuttings.

Samples of the subsurface soils encountered in the bore holes were collected at varying depths through the hollow stem drill augers. Relatively undisturbed samples of the subsurface soils were obtained by driving a split-spoon sampler with 2.5-inch outside diameter rings/liners into the undisturbed soils below the drill augers. Disturbed samples were collected utilizing a standard split spoon sampler and from auger cuttings. The standard split spoon sampler was driven 18 inches into the soils below the drill augers using a 140-pound hammer free-falling a distance of 30 inches. The number of hammer blows needed for each 6-inch interval was recorded. The sum of the hammer blows for the final 12 inches of penetration is known as a standard penetration test and this 'blow count' was recorded on the bore hole logs. The blow count provides a reasonable approximation of the relative density of granular soils, but only a limited indication of the relative consistency of fine-grained soils because the consistency of these soils is significantly influenced by the moisture content.

The subsurface soils encountered in the bore holes were classified in the field based upon visual and textural examination, logged and described in general accordance with ASTM¹ D-2488. These field classifications were supplemented by subsequent examination and testing of select samples in our laboratory. Logs of the bore holes, including a description of the soil strata encountered, is presented on each individual Bore Hole Log,

¹ American Society for Testing and Materials

Figures 2 through 18 included in the Appendix. Sampling information and other pertinent data and observations are also included on the logs. In addition, a Key to Symbols defining the terms and symbols used on the logs is provided as **Figure 19** in the Appendix. A pavement evaluation including asphalt cores and DCP testing of subgrade materials was also completed by CMT. This report is attached in the appendix.

3.0 LABORATORY TESTING

3.1 General

Selected samples of the subsurface soils were subjected to various laboratory tests to assess pertinent engineering properties, as follows:

1. Moisture Content, ASTM D-2216, Percent moisture representative of field conditions
2. Dry Density, ASTM D-2937, Dry unit weight representing field conditions
3. Atterberg Limits, ASTM D-4318, Plasticity and workability
4. Gradation Analysis, ASTM D-1140/C-117, Grain Size Analysis
5. One Dimension Consolidation, ASTM D-2435, Consolidation properties
6. Laboratory Compaction Test, ASTM D 1557, Modified Proctor density
7. California Bearing Ratio, ASTM D-2937, Subgrade support properties

3.2 Lab Summary

Laboratory test results are presented on the bore hole logs (**Figures 2 and 3**), and in the following **Lab Summary Table**:

LAB SUMMARY TABLE

BORE HOLE	DEPTH (feet)	SOIL CLASS	SAMPLE TYPE	MOISTURE CONTENT(%)	DRY DENSITY (pcf)	GRADATION			ATTERBERG LIMITS		
						GRAV.	SAND	FINES	LL	PL	PI
B-1	Surface	Fill	SPT	9		26	47	27.4			
	5	SP-SM	Rings	15.7	99	1	92	6.8			
	7.5	CL	SPT	37.2					46	22	24
	10	CL	Shelby	48.3	67						
	15	SC	Rings	28.8			57	42.7			
	25	CL	SPT	54.2			39	60.9	48	23	25
B-2	2	ML	SPT	42.3			23	76.7	NP	NP	NP
	7.5	CL	SPT	44.7		2	11	87.4			
B-3	0	Fill	SPT	21.2		8	31	61.1			
	3	ML	SPT	39.2			24	76.2			
	10	CL	SPT	40.4					45	21	24
B-4	2.5	CL	SPT	46.7			25	75.1			
B-5	Surface	CL	SPT	27.8		2	44	54.6			
	5	CL	SPT	41.9		3	11	86.1	54	23	31
B-6	2.5	CL	SPT	40.8			34	66.2			
	8	CL	SPT	33.9		1	26	72.6			
B-8	2.5	SM	SPT	20.7		7	71	21.4			
	5	CL	SPT	21.8					27	18	9
	10	SM	SPT	18.9		5	73	21.8			
B-9	2.5	Fill	SPT	13		7	68	23.1	29	20	9
B-10	5	CL	SPT	26.7		2	46	51.8	33	21	12
	10	SM	SPT	18.1		1	75	23.6			
B-11	2.5	CL	SPT	20.3		17	36	46.8			
	7.5	SM-ML	SPT	28.2		3	47	50.2	NP	NP	NP
	15	SM	SPT	13.4		19	66	14.5			
	18	SP-SM	SPT	16.9		2	94	4.2			
B-12	5	SM	SPT	20.2		5	73	22.3			
	10	SM-ML	SPT	29		4	47	49.8			
B-13	2.5	SC	SPT	19.1		9	67	24.5			
	5	CL	SPT	33		5	18	77	37	27	10
B-14	5	SC	SPT	21.6		3	61	36.7			
B-15	2.5	Fill	SPT	14.8		7	55	38.3			
	7.5	SP-SM	SPT			3	92	5.1			
	10	SP-SM	SPT	13		12.5	80	7.6			

B-16	2.5	SC-SM	SPT	14.5		16	40	43.8			
	7.5	CL-ML	SPT	30.4		3	31	66	29	22	7
B-17	1	Fill	Bag			16	31	52.9	37	17	20
	2	Fill	SPT	8.6		17	27	56.4			
	3	Fill	Bag	2.2		28	26	45.9			
	5	Fill	SPT	10.2		14	44	41.7			

3.3 One-Dimensional Consolidation Tests

A consolidation test was performed on a representative sample of the soft, wet, natural fine-grained clay soil encountered within bore hole B-1 from a depth of about 10 feet. Based upon data obtained from the consolidation tests, the clay soils tested are slightly over-consolidated and will exhibit low to moderate strength and moderately high compressibility characteristics under additional loading. Detailed results of the tests are maintained within our files and can be transmitted to you, upon your request.

3.4 Compaction Test

A bulk sample of the near surface sandy Clay/clayey Sand FILL was taken from borehole B-17 and a compaction test and subsequent California Bearing Ratio (CBR) test was performed on the sample. The compaction test was completed in accordance with the (ASTM² D-1557) specifications.

Optimum Moisture Content (percent)	Maximum Dry Density (pcf)	Percent Gravel	Percent Sand	Percent Fines Content	USCS Soil Classification
11.6	119.9	16	31	52.9	CL/SC

3.5 California Bearing Ratio (CBR) Test

A California Bearing Ratio (CBR) test was performed on the bulk silty gravel fill soil sample described above in Section 3.4 Compaction Test. The results of the CBR test are presented below:

Moisture Content at Compaction (%)	Compacted Dry Density (PCF)	Percent Compaction	Percent Swell	Measured CBR @ 0.1
10.5	118	98.4	1.51	12

4.0 SITE CONDITIONS

4.1 Surface Conditions

Saratoga Road is currently a two-lane collector road that runs north-south and intersects 145 North Street which is currently a two-lane connector (see **Vicinity Map** in **Section 1.1** above). Both roads are presently paved with asphalt concrete. Single-family residential homes border the majority of the section of Saratoga Road which will be widened. Some open fields remain along the northwest portion of this roadway stretch. The portion of 145 North Street, to be widened is bordered primarily by open, undeveloped property with the exception of some single-family residences at the northeast and northwest portions of this roadway.

4.2 Subsurface Soils

The bore holes were completed along the edge of the roadways with bore holes B-1 through B-10 and B-17 along 145 North Street and bore holes B-11 through B-16 completed along Saratoga Road.

4.2.1 145 North Street

Surficial, undocumented fill was encountered at the surface of bore holes B-1 through B-3, B-8 through B-10, and B-17 ranging in thickness from about 1 to 7 feet thick (see individual tabulation in the table below). These fills generally consisted of clayey soil with varying sand and gravel content.

Bore Hole	Surficial Fill Thickness (Feet)	Fill Description
B-1	4	Clayey SAND with some Gravel
B-2	1	CLAY with SAND
B-3	1	Fine Sandy CLAY
B-8	1.5	Mixed CLAY and GRAVEL
B-10	1	CLAY with Gravel and Sand
B-17	7	Sandy CLAY/Clayey SAND with some Gravel

Below the surficial fill and from the surface of the remaining bore holes natural soils were encountered and consisted of predominately fine-grained CLAY and SILT soils with varying fine sand and trace to some gravel and occasional intermittent silty and clayey SAND layers about 1 to 3 feet thick extending to the full depth penetrated, about 11.5 to 31.5 feet below existing site grades.

In general, based on sample blow counts, these natural soils were soft to very soft/loose to very loose, moist to wet, brown, dark brown, gray and black in color, and are anticipated to exhibit low to moderate strength and moderately high compressibility characteristics under additional loading.

The depth to groundwater and/or very moist to wet soils observed within bore holes B-1 through B-10 and B-17 at the time of drilling is tabulated below.

Bore hole	Observed groundwater Depth (Feet) At Time Of Drilling (NOT STABILIZED)	Observed Depth to Very Moist/Near Wet Soil (Feet)
B-1	8	7
B-2	4	2
B-3	3	3
B-4	4	2
B-5	2	2
B-6	2	2
B-7	3	3
B-8	3	2
B-9	5	5
B-10	5	4
B-17	Not observed to 11.5 feet	Not observed to 11.5 feet

4.2.2 Saratoga Road

Topsoil was encountered at the surface of bore holes B-11 and B-16. Surficial, undocumented fill was encountered at bore holes B-12 through B-14, measuring about 1 foot thick, and at bore hole B-15 to a depth of about 6 feet below the ground surface.

Below the surficial topsoil and fill at bore holes B-11 and B-14, natural CLAY with sand was encountered to depths of about 4 to 7 feet underlain by clayey and silty SAND soil extending to the full depth penetrated, about 11.5 feet.

Below the surficial fill at bore hole B-12 natural silty SAND and sandy SILT was encountered to the full depth penetrated, about 11.5 feet.

Below the surficial fill and topsoil at bore holes B-13 and B-6 natural clayey and silty SAND was encountered to about 5 feet underlain by sandy CLAY and SILT extending to the full depth penetrated of about 11.5 feet.

Below the surface fill at bore hole B-15, natural fine SAND with some silt was encountered to the full depth penetrated, about 11.5 feet.

In general, based on sample blow counts, the surficial fill and natural soils were soft/loose within the upper about 4 to 5 feet grading very soft/very loose below to the full depth penetrated of about 11.5 feet.

The depth to groundwater and/or very moist to wet soils observed within bore holes B-1 through B-10 and B-17 at the time of drilling is tabulated below.

Bore hole	Observed groundwater Depth (Feet) At Time of Drilling NOT STABILIZED	Observed Depth to Very Moist/Near Wet Soil (Feet)
B-11	7	4
B-12	7	5
B-13	9	4
B-14	9	5
B-15	7	7
B-16	8	6

For a more descriptive interpretation of subsurface conditions, please refer to the bore hole logs, **Figures 2 through 18**, which graphically represent the subsurface conditions encountered. The lines designating the interface between soil types on the logs generally represent approximate boundaries; in situ, the transition between soil types may be gradual.

4.4 Site Subsurface Variations

Based on the results of the subsurface explorations and our experience, variations in the continuity and nature of subsurface conditions should be anticipated. Due to the heterogeneous characteristics of natural soils, care should be taken in interpolating or extrapolating subsurface conditions between or beyond the exploratory locations.

Undocumented/non-engineered fill material was encountered at many of the bore hole locations, which must be anticipated to vary in depth and lateral extent along the roadway alignment.

5.0 SITE PREPARATION AND GRADING

5.1 General Site Preparation

It is anticipated that site preparation will consist of the removal of existing surface vegetation, topsoil, any other deleterious materials, loose/disturbed soils from beneath an area extending out horizontally at least 3 feet beyond new improvement areas.

Surficial, undocumented fill soils were encountered at 10 of the 17 bore holes and generally consisted of clayey soils with varying sand and gravel content. The encountered fill was less than 2 feet thick at 7 of these bore hole locations with thicker fills at bore holes B-1, B-15, and B-17 ranging from about 4 to 7 feet thick. Where existing, in place fills are less than 2.5 feet thick and clean of deleterious materials it is our opinion that they may remain provided the upper 12 inches is scarified, moisture conditioned and recompacted in place to the requirements outlined in section **5.5 Fill Placement and Compaction** below. Where the existing undocumented fill sequence is greater than 2.5 feet thick and less than 7 feet thick, we recommend reworking and compacting the upper one half, minimum, of the fill thickness as outlined in section **5.5 Fill Placement and Compaction** below. The upper about 8 inches of native subgrade should also be similarly prepared and compacted.

Below new utilities, and in particularly gravity fed utilities such as storm drains and sanitary sewer, we recommend all undocumented fill be removed down to suitable natural soil and replaced with compacted structural fill.

Subsequently the exposed subgrade must be proofrolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or otherwise unsuitable soils are encountered beneath footings, they must be completely removed. In general, below pavement and outside flatwork areas, unsuitable natural soils should be removed to a maximum depth of 2 feet and replaced with compacted granular structural fill/stabilization fill.

With relatively shallow groundwater and/or shallow depth to very moist/wet, soft soils we anticipated some subgrade stabilization may be required. General subgrade stabilization recommendations are provided below in section **5.4 Stabilization**. However, additional site review and stabilization recommendations may be required on a site specific basis and may include drainage recommendations if/where shallow groundwater is present.

The exposed subgrade should be examined by a CMT geotechnical engineer to assess that loose and/or disturbed soils have been removed/properly prepared, prior to placing site grading fills, and pavements.

Fill placed over large areas to raise overall site grades can induce settlements in the underlying natural soils. If more than 4 feet of site grading fill is anticipated over the natural ground surface, we should be notified to assess potential settlements and provide additional recommendations as needed. These recommendations may include placement of the site grading fill far in advance to allow potential settlements to occur prior to construction.

5.2 Temporary Excavations

To reduce disturbance of the natural soils during excavation, it is recommended that smooth edge buckets/blades be utilized where possible. Further heavy wheel traffic over the subgrade should be avoided when/where possible.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated. All excavations should be made following OSHA safety guidelines.

5.3 Utility Trenches

For the bedding zone around the utility, we recommend utilizing sand bedding fill material that meets current APWA³ requirements.

³ American Public Works Association

Most utility companies and local governments are requiring Type A-1a or A-1b (AASHTO Designation) soils (sand/gravel soils with limited fines) be used as backfill over utilities within public rights of way, and the backfill be compacted over the full depth above the bedding zone to at least 96% of the maximum dry density as determined by AASHTO T-180 (ASTM D-1557).

Where the utility does not underlie structurally loaded facilities and public rights of way, on-site fill and natural soils may be utilized as trench backfill above the bedding layer, provided they are free of deleterious material, properly moisture conditioned and compacted to a minimum 90 percent of the maximum dry density.

5.4 Stabilization

The fine-grained soft clay soils at this site will likely be highly susceptible to rutting and pumping under heavy wheel traffic. The likelihood of disturbance or rutting and/or pumping of the existing natural soils is a function of the soil moisture content, the load applied to the surface, as well as the frequency of the load. Consequently, rutting and pumping can be minimized by avoiding concentrated traffic, minimizing the load applied to the surface by using lighter equipment and/or partial loads, by working in drier times of the year, or by providing a working surface for the equipment. Rubber-tired equipment particularly, because of high pressures, promotes instability in moist/wet, soft soils.

To stabilize soft subgrade conditions (if encountered), a mixture of coarse, clean, angular gravels and cobbles and/or 1.5- to 2.0-inch clean gravel should be utilized. This coarse material may be placed and worked into the soft soils until firm and non-yielding or the soft soils removed an additional, minimum of 18 inches, and backfilled with the clean stabilizing fill. A test area should be implemented to achieve a proper stabilization strategy. Often the amount of gravelly material can be reduced with the use of a geotextile fabric such as Mirafi RS280i or equivalent. Its use will also help avoid mixing of the subgrade soils with the gravelly material. After excavating the soft/disturbed soils, the fabric should be spread across the bottom of the excavation and up the sides a minimum of 18 inches. Otherwise, it should be placed in accordance with the manufacturer's recommendation, including proper overlaps. The gravel material can then be placed over the fabric in compacted lifts as described above.

5.5 Fill Placement and Compaction

The various types of compaction equipment available have their limitations as to the maximum lift thickness that can be compacted. For example, hand operated equipment is limited to lifts of about 4 inches and most "trench compactors" have a maximum, consistent compaction depth of about 6 inches. Large rollers, depending on soil and moisture conditions, can achieve compaction at 8 to 12 inches loose.

We recommend for best compaction results that the moisture content for structural fill/backfill be within 2% of optimum.

Field density tests should be performed to verify that proper compaction is being achieved as outlined by project specifications.

Native subgrade preparation prior to fill/pavement section placement should be moisture conditioned and compacted to a minimum 93 percent of the modified proctor density (AASHTO T-180/ASTM D-1557). Preparation of in-situ fill must be compacted to a minimum 95 percent of the modified proctor density. Subsequent structural materials placed and compacted within the roadway area must be compacted to a minimum of 96% of the Modified Proctor. Where fills are deeper than about 8 feet, such as in utility trenches, it is recommended that the backfill be compacted to 97%.

5.7 Equipment Pads and Sidewalks

Small, slab-on-grade equipment pads may be required at the intersection which may be designed utilizing a uniform bearing pressure of 1,000 pounds per square foot supported over a minimum 10 inches of APWA Class A or UDOT aggregate base course over natural, stable, undisturbed soil or approved structural fill. Subgrade soil below flatwork should be similarly prepared out outlined in section 5.1 General Site Preparation above. We recommend that sidewalks be supported directly by a minimum of 4 inches of APWA Class A or UDOT aggregate base course.

6.0 LATERAL EARTH PRESSURES

Utility boxes may be required which are anticipated to extend up to about 8feet below the ground surface. The lateral pressures imposed upon subgrade facilities will depend upon the relative rigidity and movement of the backfilled structure. Following are the recommended lateral pressure values, which also assume that the soil surface behind the wall is horizontal and that the backfill within 3 feet of the wall will be compacted with hand-operated compacting equipment.

CONDITION	STATIC (psf/ft)*	SEISMIC (psf)*
Active Pressure (wall is allowed to yield, i.e. move away from the soil, with a minimum 0.001H movement/rotation at the top of the wall, where “H” is the total height of the wall)	43	30
At-Rest Pressure (wall is not allowed to yield)	64	N/A
Passive Pressure (wall moves into the soil)	350	140

*Equivalent Fluid Pressure (applied at 1/3 Height of Wall)

*Equivalent Fluid Pressure (added to static and applied at 1/3 Height of Wall)

7.0 PAVEMENTS

All pavement areas must be prepared as discussed above in Section 5.0 Site Preparation and Grading above. Pavement section design with a discussion of anticipated traffic will be provided in separate report documents.

8.0 QUALITY CONTROL

We recommend that CMT be retained as part of a comprehensive quality control testing and observation program. With CMT onsite we can help facilitate implementation of our recommendations and address, in a timely manner, any subsurface conditions encountered which vary from those described in this report. Without such a program CMT cannot be responsible for application of our recommendations to subsurface conditions which may vary from those described herein. This program may include, but not necessarily be limited to, the following:

8.1 Field Observations

Observations should be completed during all phases of construction such as site preparation, foundation excavation, structural fill placement and concrete placement.

8.2 Fill Compaction

Compaction testing by CMT is required for all structural supporting fill materials. Maximum Dry Density (Modified Proctor, ASTM D-1557) tests should be requested by the contractor immediately after delivery of any fill materials. The maximum density information should then be used for field density tests on each lift as necessary to ensure that the required compaction is being achieved.

8.3 Excavations

All excavation procedures and processes should be observed by a geotechnical engineer from CMT or his representative. In addition, for the recommendations in this report to be valid, all backfill and structural fill placed in trenches and all pavements should be density tested by CMT. We recommend that freshly mixed concrete be tested by CMT in accordance with ASTM designations.

9.0 LIMITATIONS

The recommendations provided herein were developed by evaluating the information obtained from the subsurface explorations and soils encountered therein. The exploration logs reflect the subsurface conditions only at the specific location at the particular time designated on the logs. Soil and ground water conditions may differ from conditions encountered at the actual exploration locations. The nature and extent of any variation in the explorations may not become evident until during the course of construction. If variations do appear, it may become necessary to re-evaluate the recommendations of this report after we have observed the variation.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

Saratoga Road and 145 North Roadway Widening Improvements, Saratoga Springs, Utah
CMT Project No. 21527

We appreciate the opportunity to be of service to you on this project. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (801) 590-0394. To schedule materials testing, please call (801) 381-5141.

APPENDIX

**SUPPORTING
DOCUMENTATION**





145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 31.5'

Date: 2/26/24

Water Depth: 8'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)			Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; clayey sand with gravel moist, medium dense	▲	1	7 7 4	11	9	26	47	27				
4				2	2 7 7	14								
		Dark Gray Lean CLAY (CL) moist, medium stiff to stiff												
		Light Gray Poorly Graded SAND (SP) very moist, medium dense	▲	3	6 9 11	20	15.7	99	1	92	6.8			
		Dark Gray to Black Lean CLAY (CL) very soft wet	▲	4	0 0 0	0	37.2					46	22	24
12				5					48.3	67				
		Gray Clayey Fine SAND (SC) wet, loose grades gray	▲	6	1 2 5	7	28.8		0	57	43			
16														
		Dark Gray to Black Fine Sandy CLAY (CL) wet, very soft	▲	7	0 0 0	0								
20														
			▲	8	1 0 0	0	54.2		0	39	61	48	23	25
24														
28														

Remarks: Groundwater encountered during drilling at depth of 8 feet.

Coordinates: °, °

Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger

Automatic Hammer, Wt=140 lbs, Drop=30"

Excavated By: Direct Push

Logged By: Sterling Howell

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Figure:

2

Saratoga Road/145 North Roadways, Saratoga Springs, Utah

Bore Hole Log

B-1

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 31.5'

Date: 2/26/24

Water Depth: 8'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)			Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
					Total					Gravel %	Sand %	Fines %	LL	PL	PI	
28																
					9	0	0	0								
32		END AT 31.5'														
36																
40																
44																
48																
52																
56																

Remarks: Groundwater encountered during drilling at depth of 8 feet.

Coordinates: °, °
 Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
 Excavated By: Direct Push
 Logged By: Sterling Howell
 Page: 2 of 2



Figure:

2

Saratoga Road/145 North Roadways, Saratoga Springs, Utah

Bore Hole Log

B-2






145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/26/24

Water Depth: 4'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
					Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill												
		Brown Lean CLAY (CL) moist, medium stiff		10	2 2 2	4								
		Brown Fine Sandy SILT (ML) very moist, very soft		11	0 0 0	0	42.3		0	23	77		NP	NP
4		Dark Gray Lean CLAY (CL) wet very soft		12	0 0 0	0								
		Dark Gray Lean CLAY (CL) grades light gray to tan		13	0 0 0	0								
				14	0 1 1	2								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 4 feet.

Coordinates: 40.3649703°, -111.8862402°

Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger

Automatic Hammer, Wt=140 lbs, Drop=30"

Excavated By: Direct Push

Logged By: Sterling Howell

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Figure:

3

Saratoga Road/145 North Roadways, Saratoga Springs, Utah

Bore Hole Log

B-3

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 3'

Date: 2/26/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)			Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; fine sandy clay		15	2	5	21.2		8	31	61			
		moist, medium stiff			2									
		Brown Silty to Lean CLAY (CL)			3									
		moist, medium stiff												
		Gray Brown Fine Sandy SILT (ML)												
		sof to very soft wet		16	0	2	39.2		0	24	96			
4		Gray Brown Sandy CLAY (CL)												
		wet, very soft												
		grades dark brown		17	0	1								
					1									
					0									
8		Dark Gray-Brown Lean CLAY (CL)		18	0	2								
		wet, very soft			2									
					0									
				19	0	0	40.4					45	21	24
					0									
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 3 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

4

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 4'

Date: 2/26/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Brown Silty CLAY (CL) with some layers of fine sand moist to very moist, soft to very soft	20	1 1 1	2								
4		Dark Gray to Black Fine Sandy CLAY (CL) very soft wet	21	1 0 1	1	46.7	0	25	75				
6		grades gray to gray brown	22	1 0 0	0								
8		Blue-Gray Poorly Graded Clayey SAND (SC) wet, loose	23	0 0 2	2								
10		Gray to Blue-Gray Lean CLAY (CL) medium stiff	24	3 3 4	7								
12	END AT 11.5'												
16													
20													
24													
28													

Remarks: Groundwater encountered during drilling at depth of 4 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

5

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/26/24

Water Depth: 2'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Brown Fine Sandy CLAY (CL)	▲	25	2 2 2	4	27.8	2	44	56			
		moist, medium stiff											
		Dark Gray to Gray Lean CLAY (CL)	▲	26	0 0 0	0							
4													
		very soft wet		27	0 1 1	2	41.9	3	11	86	54	23	31
8													
			28	0 0 0	0								
			29	0 0 0	0								
12		END AT 11.5'											
16													
20													
24													
28													

Remarks: Groundwater encountered during drilling at depth of 2 feet.

Coordinates: 40.3649588°, -111.8799433°

Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger

Automatic Hammer, Wt=140 lbs, Drop=30"

Excavated By: Direct Push

Logged By: Sterling Howell

Page: 1 of 1



Figure:

6

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/26/24

Water Depth: 2'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
					Total				Gravel %	Sand %	Fines %	LL	PL	PI	
0		Brown Silty CLAY (CL) with fine sand			1										
		moist, soft to medium stiff		30	1	3									
		Dark Gray to Gray Fine Sandy CLAY (CL) with minor sand layers and organic layers up to 2" thick			2										
		wet very soft													
4				31	0	0	40.8		0	34	66				
					0	0									
				32	0	0									
					0	0									
8				33	0	0	33.9		1	26	73				
					0	0									
				34	1	1									
					0	0									
12		END AT 11.5'													
16															
20															
24															
28															

Remarks: Groundwater encountered during drilling at depth of 2 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

7

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/27/24

Water Depth: 3'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Brown Sandy CLAY (CL) moist, soft											
4		Brown Silty SAND (SM) with minor interbedded clay wet very loose	35	3	5								
		Brown Sandy Silt/Silty Sand (ML-SM) wet, very soft/very loose	36	0	0	0							
8				37	0	0	0						
12		END AT 11.5'											
16													
20													
24													
28													

Remarks: Groundwater encountered during drilling at depth of 3 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

8

Saratoga Road/145 North Roadways, Saratoga Springs, Utah

Bore Hole Log

B-8

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/27/24

Water Depth: 3'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
						Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; clay and gravel		39	2 2 3	5								
4		Brown Silty SAND (SM) very loose wet		40	2 1 0	1	20.7		7	71	21			
8		Dark Brown Silty CLAY (CL) with sand wet, very soft		41	0 2 0	2	21.8					27	18	9
8		Brown Silty SAND (SM) wet, very loose		42	0 0 2	2								
12		END AT 11.5'		43	2 1 2	3	18.9		5	73	22			

Remarks: Groundwater encountered during drilling at depth of 3 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

9

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/27/24

Water Depth: 5'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
					Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; dark brown clay with sand and gravel	moist, soft											
0-4		Brown Clayey SAND (SC) with trace to some gravel	loose	44	2 3 2	5	13		7	68	23	29	20	9
4		Dark Brown Silty to Clayey SAND (SM-SC)	loose wet	45	2 0 0	0								
8				46	1 1 0	1								
				47	1 0 1	1								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 5 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

10

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 5'

Date: 2/27/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)			Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; dark brown clay with gravel and sand												
		Dark Brown Fine Sandy CLAY (CL)												
		moist, very soft												
			48	3 3 5	8									
			49	2 2 1	3									
4														
		wet												
			50	1 1 0	1	26.7		2	46	52	33	21	12	
		medium stiff												
			51	0 0 6	6									
		Brown Silty SAND (SM)												
		wet, very loose												
			52	1 1 1	2	18.1		1	75	24				
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 5 feet.

Coordinates: 40.365925°, -111.867045°

Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger

Automatic Hammer, Wt=140 lbs, Drop=30"

Excavated By: Direct Push

Logged By: Sterling Howell

Page: 1 of 1



Figure:

11

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 18'
Water Depth: 7'

Date: 2/27/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Topsoil sod followed by dark brown silty clay		53	5 5 3	8							
4		Dark Brown Fine Sandy CLAY (CL) with some gravel moist, medium stiff		54	2 3 5	8	20.3	71	36	47			
		stiff		55	5 9 7	16							
8		Brown Silty Fine Sand/Fine Sandy Silt (SM-ML) wet very loose/very soft		56	0 0 1	1	28.2	3	47	50		NP	NP
12													
16		Brown Silty SAND (SM) with gravel wet, medium dense		57	2 3 8	11	13.4	19	66	15			
				58			16.9	2	94	4			
20		REFUSAL AT 18.0'											
24													
28													

Remarks: Groundwater encountered during drilling at depth of 7 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

12


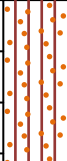
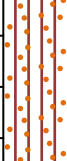
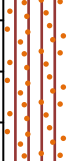

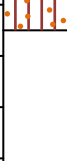
145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/28/24

Water Depth: 7'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill											
0 - 3.5		Brown to Dark Brown Silty SAND (SM) moist, very loose		59	1 1 2	3							
3.5 - 5.5				60	1 1 1	2							
5.5 - 7.5				61	1 0 1	1	20.2	5	73	22			
7.5 - 8.5		wet		62	1 0 0	0							
8.5 - 11.5		grades silty sand/sandy silt		63	1 0 0	0	29	4	47	50			
11.5 - 28		END AT 11.5'											

Remarks: Groundwater encountered during drilling at depth of 7 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 9'

Date: 2/28/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI	
0		Fill; clay with gravel		64	1	1								
		Dark Brown Clayey Fine SAND (SC) moist, loose		65	3 2 3	5	19.1	9	67	25				
4		Brown Fine Sandy CLAY (CL) very moist to wet, very soft		66	1 0 1	1	33	5	18	77	37	27	10	
8				67	0 0 0	0								
		Tan Silty SAND (SM) very loose		68	1 0 0	0								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 9 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

14

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 9'

Date: 2/28/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI	
0		Fill; clay and gravel		69	1 1 5	6								
		Dark Brown to Black Silty CLAY (CL) with sand moist, soft		70	2 2 2	4								
4		Dark Brown Clayey SAND (SC) moist to very moist, very loose		71	1 0 1	1	21.6	3	61	36.7				
8		wet		72	0 0 0	0								
				73	0 0 1	1								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 9 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:
15

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 2/28/24

Water Depth: 7'

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)			Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
				Sample #	Total				Gravel %	Sand %	Fines %	LL	PL	PI
0		Fill; brown clayey fine sand moist, medium stiff	74	3	9									
				3										
				6										
4			75	4	11	14.8			7	55	38			
				5										
				6										
8		Brown SAND (SP-SM) with some silt loose wet	76	2	2									
				1										
				1										
8			77	2	5				3	92	5			
				3										
				2										
12		END AT 11.5'	78	2	1	13			12.5	80	7			
				0										
				1										

Remarks: Groundwater encountered during drilling at depth of 7 feet.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Sterling Howell



Figure:

16

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'
Water Depth: 8'

Date: 2/28/24
Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI	
0		Topsoil; sod followed by silty clay		79	3 3 5	8								
		Brown Silty/Clayey SAND (SM-SC) moist, loose		80	3 1 6	7	14.5	16	40	44				
4		Brown Fine Sandy Silt/Clay (CL-ML) moist to very moist, soft to very soft		81	2 2 2	4								
				82	1 0 1	1	30.4	3	31	66	29	22	7	
				83	0 0 1	1								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater encountered during drilling at depth of 8 feet.

Coordinates: 40.37399°, -111.886732°

Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"

Excavated By: Direct Push

Logged By: Sterling Howell



Figure:

17

145 North Saratoga Road, Saratoga Springs, Utah

Total Depth: 11.5'

Date: 8/23/24

Water Depth: (see Remarks)

Job #: 21527

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Blows (N)		Moisture (%)	Dry Density(pcf)	Gradation			Atterberg			
				Sample #	Total			Gravel %	Sand %	Fines %	LL	PL	PI	
0		Fill; sandy clay/clayey sand with some gravel dry, stiff/dense		84				16	31	52.9	37	17	20	
				85	14 17 27	44	8.6	17	27	56				
4				86			22	28	26	45.9				
				87	8 9 5	14	10.2	14	44	42				
				88	2 1 2	3								
8		Topsoil; gravelly clay with sand, organics and roots												
		Brown Silty CLAY (CL) with some sand and shells moist, soft		89	1 2 1	3								
12		END AT 11.5'												
16														
20														
24														
28														

Remarks: Groundwater not encountered during drilling.

Coordinates: °, °
Surface Elev. (approx): Not Given

Equipment: Hollow-Stem Auger
Automatic Hammer, Wt=140 lbs, Drop=30"
Excavated By: Direct Push
Logged By: Jake Engman



Figure:

18

①	②	③ Soil Description	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	
Depth (ft)	GRAPHIC LOG		Sample Type	Sample #	Blows (N)		Moisture (%)	Dry Density (pcf)	Gradation			Atterberg								
					Total				Gravel %	Sand %	Fines %	LL	PL	PI						

COLUMN DESCRIPTIONS

Depth (ft.): Depth (feet) below the ground surface (including groundwater depth - see below right).

Graphic Log: Graphic depicting type of soil encountered (see below).

Soil Description: Description of soils, including Unified Soil Classification Symbol (see below).

Sample Type: Type of soil sample collected; sampler symbols are explained below-right.

Sample #: Consecutive numbering of soil samples collected during field exploration.

Blows: Number of blows to advance sampler in 6" increments, using a 140-lb hammer with 30" drop.

Total Blows: Number of blows to advance sampler the 2nd and 3rd 6" increments.

Moisture (%): Water content of soil sample measured in laboratory (percentage of dry weight).

Dry Density (pcf): The dry density of a soil measured in laboratory (pounds per cubic foot).

Gradation: Percentages of Gravel, Sand and Fines (Silt/Clay), from lab test results of soil passing No. 4 and No. 200 sieves.

Atterberg: Individual descriptions of Atterberg Tests are as follows:

LL = Liquid Limit (%): Water content at which a soil changes from plastic to liquid behavior.

PL = Plastic Limit (%): Water content at which a soil changes from liquid to plastic behavior.

PI = Plasticity Index (%): Range of water content at which a soil exhibits plastic properties (= Liquid Limit - Plastic Limit).

STRATIFICATION		MODIFIERS	MOISTURE CONTENT
Description	Thickness	Trace	
Seam	Up to 1/2 inch	<5%	Dry: Absence of moisture, dusty, dry to the touch.
Lense	Up to 12 inches	Some	Moist: Damp / moist to the touch, but no visible water.
Layer	Greater than 12 in.	5-12%	Saturated: Visible water, usually soil below groundwater.
Occasional	1 or less per foot	With	
Frequent	More than 1 per foot	> 12%	

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)	MAJOR DIVISIONS		USCS SYMBOLS	TYPICAL DESCRIPTIONS		
	COARSE-GRAINED SOILS More than 50% of material is larger than No. 200 sieve size.	GRAVELS The coarse fraction retained on No. 4 sieve.	CLEAN GRAVELS (< 5% fines)	GW	Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines	
			GP	Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines		
GRAVELS WITH FINES (≥ 12% fines)			GM	Silty Gravels, Gravel-Sand-Silt Mixtures		
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures		
SANDS The coarse fraction passing through No. 4 sieve.		CLEAN SANDS (< 5% fines)	SW	Well-Graded Sands, Gravelly Sands, Little or No Fines		
			SP	Poorly-Graded Sands, Gravelly Sands, Little or No Fines		
		SANDS WITH FINES (≥ 12% fines)	SM	Silty Sands, Sand-Silt Mixtures		
			SC	Clayey Sands, Sand-Clay Mixtures		
			FINE-GRAINED SOILS More than 50% of material is smaller than No. 200 sieve size.	SILTS AND CLAYS Liquid Limit less than 50%	ML	Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands or Clayey Silts with Slight
					CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean
OL	Organic Silts and Organic Silty Clays of Low Plasticity					
SILTS AND CLAYS Liquid Limit greater than 50%	MH	Inorganic Silts, Micaceous or Diatomaceous Fine Sand or Silty Soils with Plasticity (Elastic Silts)				
	CH	Inorganic Clays of High Plasticity, Fat Clays				
	OH	Organic Silts and Organic Clays of Medium to High Plasticity				
HIGHLY ORGANIC SOILS		PT	Peat, Humus, Swamp Soils with High Organic Contents			

SAMPLER SYMBOLS

- Block Sample
- Bulk/Bag Sample
- Modified California Sampler 3.5" OD, 2.42" ID
- D&M Sampler
- Rock Core
- Standard
- Penetration Split Spoon Sampler
- Thin Wall (Shelby Tube)

WATER SYMBOL

- Encountered Water Level
 - Measured Water Level
- (see Remarks on Logs)

Note: Dual Symbols are used to indicate borderline soil classifications (i.e. GP-GM, SC-SM, etc.).

- The results of laboratory tests on the samples collected are shown on the logs at the respective sample depths.
- The subsurface conditions represented on the logs are for the locations specified. Caution should be exercised if interpolating between or extrapolating beyond the exploration locations.
- The information presented on each log is subject to the limitations, conclusions, and recommendations presented in this report.

Figure:

SARATOGA ROAD AND 145 N SARATOGA SPRINGS PAVEMENT EVALUATION

Prepared for:

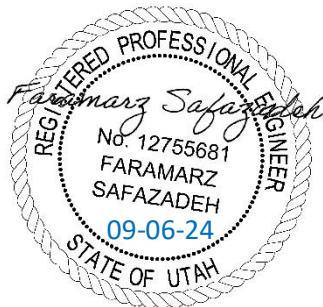
Saratoga Spring Public Works

September 06, 2024



Prepared by:

***Timothy D. Biel, M.S., P.E.
Faramarz Safazadeh Ph.D., P.E.
CMT Technical Services***



CMT
TECHNICAL
S E R V I C E S

145 N – SARATOGA ROAD, SARATOGA SPRINGS PAVEMENT EVALUATION

Executive Summary

CMT Technical Services performed an evaluation of the existing Saratoga Road and 145 N in Saratoga Springs City, Utah. A review of the roadway identified the need for some significant rehabilitation or reconstruction of Saratoga Road and 145 N pavements due to significant environmental and structural degradation of the asphalt surfacing. The roadway rehabilitation consists of areas of new construction/widening, areas of structural repair, and areas of mill and overlay for grade purposes. **Full Depth Rehabilitation** as the primary alternative is recommended for the rehabilitation portion. The cost of full-depth rehabilitation by cement treating the existing base, excluding the replacement of the soft layer with engineered fill, was also evaluated.

Introduction

Saratoga Road and 145 N are roadways located in Saratoga Springs City, UT. CMT Technical Services has been contracted by Saratoga Springs City to perform a surface and subsurface evaluation of the pavement. Evaluations are needed to determine appropriate possible actions for maintenance/rehabilitation. The existing pavements' conditions were determined for future rehabilitation alternatives that are appropriate for the roadway for Saratoga Springs City review and approval. A condition investigation of the existing pavement was performed as a part of the process. The recommendations for short- and long-term rehabilitation alternatives were made using local industry pavement evaluation and design practices. This summary includes the pavement's field investigation and engineering evaluation based on typical AASHTO and local practices for pavement analysis, design, and management.

Field Investigation

A field investigation was performed by CMT Technical Services personnel, including a visual distress survey and a subsurface investigation on March 18, 2024. The subsurface investigation included 12 cores taken from the pavement. 6 cores were taken from Saratoga Road, 2 Cores were taken from the west section of 145 N from the intersection with Saratoga Road, and 4 cores were taken from the east section of 145 N to 1100 W. The road with the core locations is shown in Figure 1. Dynamic Cone Penetrometer (DCP) testing was performed in each hole to determine base layer depth, subgrade depth, and support evaluations. DCP tests were also performed on the shoulder of the road at each core location. As field conditions were not at or above saturation levels, field California Bearing Ratio (CBR) values were adjusted for laboratory value estimates. DCP results are included in the appendix.

ROADWAY FINDINGS

The following observations were made from the field investigation of the asphalt roadways.

- ✓ Curb and Gutter was present at all widened locations but many sections are in of need elevation repair
- ✓ The pavement consisted of aged and oxidized asphalt surfacing with significant cracking distress and localized potholes
- ✓ Significant Advanced Block and Map Cracking (environmental) throughout the pavements
- ✓ Large areas of severe alligator cracking were present (structural failure)
- ✓ A seal coat is present and in very poor condition; crack seal treatments are not observed

Typical roadway surface conditions can be seen in Figure 2 and Figure 3. A review of the asphalt surface identified primarily advanced block cracking and alligator cracking. The alligator cracking generally penetrates all the way through the asphalt, indicating that this pavement is failing. The pavement surface has generally reached the end of its functional life due to aging and experiencing many freeze-thaw cycles.

The subsurface investigation of Saratoga Road and 145 N identified the total asphalt thickness of Saratoga Road ranging around 2-5 inches thick, the west section of 145 N ranging from 6 to 9 inches, and the east section of 145 N ranging from 3 to 5 inches. The asphalt cores exhibited high voids and showed signs of material deterioration. Total base and subbase course thicknesses ranged around 12 inches. Saratoga Road base is generally in good condition with CBR values generally above 80% with exceptions. The support strength of the base material for the east section of 145 N would be considered very poor at the majority of locations with average values around 40%. The majority of the core locations experienced REFUSAL (typically large rock or possible flow fill trench) or a high CBR number from the DCP test. In general, the layer immediately below the base was relatively strong for the subgrade. Field investigation summaries and core photos are shown in the appendix.



Figure 2. Typical Surface Condition of the Pavement (Saratoga Road)



Figure 3. Typical Surface Condition of the Pavement (145 N)

EVALUATION AND DESIGN

A pavement design was performed using the AASHTO 1993 method as part of the subsurface investigation process. The roadway is categorized as a future high-volume arterial with future traffic, including semi-trucks, garbage trucks, delivery vehicles, school buses, etc. (Figure 4). The typical 20-year ESAL load for the Saratoga Road is expected to be around 4,470,700 ESALs. The typical 20-year ESAL load for the 145 N road is expected to be around 9,560,700 ESALs.

SARATOGA ROAD

The calculated structural number for Saratoga Road is 3.74 using a CBR value of 10% (9400 psi), ESAL loading of 4,500,000, and the typical local design default inputs. The soft spots under the existing base layer will need to be repaired after the removal of the pavement. Table 1 shows the summary of two proposed alternatives for this project to achieve the required structural number needed (3.74) for the rehabilitation portions. The cost of reconstruction of the roadways was evaluated and presented in the appendix to compare the fiscal condition of all alternatives. The subgrade soft spot repair costs are not included.

Table 4: Existing AADT and Future Projections Summary

Vehicles per Day	2022 AADT (UDOT)	Existing Counts (0.1 k factor)	WFRC 2032	MAG 2030 ¹	MAG 2050	2050 Projections (WFRC)
Saratoga Road North	1300	4500	12,500	13,000	20,500	19,500
Saratoga Road South		1800	10,500			10,500
145 North East	520	5300	17,000	28,000	11,000	16,000
145 North West		6900	25,500		21,000	29,500

1. MAG Transportation Funding Concept Report Saratoga Road & 145 North Widening

As several sources have varying data, engineering judgement was used to refine the future projections in the area. A 2030 AADT estimated and 2050 AADT estimation is provided in Table 5 with the associated growth factors. The average growth factor for 2030 is estimated at 3.32 and for 2050 it is estimated at 4.99.

Table 5: Existing AADT and Assumed Future Projections

Vehicles per Day	Existing Counts (0.1 k factor)	2030 AADT	2030 Growth Factor	2050 AADT	2050 Growth Factor
Saratoga Road North	4500	13000 ¹	2.89	20,500 ⁵	4.56
Saratoga Road South	1800	6300 ²	3.50	10500 ⁶	5.83
145 North East	5300	17000 ³	3.21	28000 ⁷	5.28
145 North West	6900	25500 ⁴	3.70	29500 ⁸	4.28
Average			3.32		4.99

1. MAG 2030 Projection

2. 60% of 2050 WFRC Projection

3. WFRC 2030 Projection

4. WFRC 2032 Projection

5. MAG 2050 Projection

6. WFRC 2050 Projection

7. MAG 2030 Projection

8. WFRC 2050 Projection

Figure 4. Traffic Analysis/Projections

Table 1. Summary of the Alternatives for Saratoga Road

Option	Layers	Thickness (in)	Total Construction thickness (in)	SN	Cost (\$)
					Total
Alternative I	HMA	5	25	3.76	\$960,000
	UTBC	8			
	GB	12			
Alternative II	HMA	5	11	3.80	\$750,500
	CTB	6			

The first alternative consists of a new 5" HMA cap over 8" of untreated granular base (UTBC) over 12 inches of granular burrow. This surface reconstruction alternative requires the removal of the existing pavement. The existing base course material can be repaired and used as GB. The use of less than a 5" HMA cap on top of the UTBC does not meet design criteria.

The use of a cement-stabilized base comprised of a combination of the existing underlying course base and the pulverized asphalt can be a viable economical alternative to smooth the process of existing pavement removal. This method has many benefits such as offsetting some of the field-related costs and reducing the HMA layer thickness. This alternative requires removing 3-5" of the existing surface layer, followed by pulverizing and combining the next 6" thickness of the existing pavement (existing binder course and untreated base course). A 5" HMA surface layer on top of the stabilized layer is recommended. The proportions of the granular base course to be mixed with the pulverized asphalt can be determined through a field evaluation at the time of the project based on the available material after milling. The expected ratios are approximately 15% to 50% pulverized asphalt material included with the granular base course. To achieve desired strengths, a 4% to 5% cement content is anticipated. The pulverization creates about 10% excess recycled materials to be utilized in the widening portions.

The repair of the surface through the use of a penetrating seal is **NOT** a viable option due to the degradation of the surface layers and the depressions in the wheel paths. The reflective cracks will come up to the surface regardless of the surface treatment. The mill and overlay process **CANNOT** be considered appropriate due to insufficient asphalt surface available and lower asphalt layer degradation. A typical thin HMA overlay would be expected to exhibit map cracking (starting with longitudinal cracks from the current location) and reflective cracking in less than 5 years. Base layer soft spots will need to be addressed during reconstruction prior to placement of the HMA surface.

145 N

The calculated structural number for 145 N is 4.16 using a CBR value of 10% (9400 psi), ESAL loading of 9,500,000, and the typical local design default inputs. The soft spots under the existing base layer will need to be repaired after the removal of the asphalt surface. Table 1 shows the summary of two proposed alternatives for this project to achieve the required structural number needed (4.16). The cost of reconstruction of the roadways was evaluated and presented in the appendix to compare the fiscal condition of all alternatives. The subgrade soft spot repair costs are not included.

Table 2. Summary of the Alternatives for 145 N

Option	Layers	Thickness (in)	Total Construction thickness (in)	SN	Cost (\$)
					Total
Alternative I	HMA	6	26	4.16	\$1,340,000
	UTBC	8			
	GB	12			
Alternative II	HMA	5.5	12.5	4.30	\$1,110,000
	CTB	7			

The first alternative consists of a new 6" HMA cap over 8" of untreated granular base (UTBC) over 12 inches of granular burrow. This surface reconstruction alternative requires the removal of the existing pavement. The existing base course material can be repaired and used as GB. The use of less than a 5" HMA cap on top of the UTBC does not meet design criteria.

The use of a cement-stabilized base comprised of a combination of the existing underlying course base and the pulverized asphalt can be a viable economical alternative to smooth the process of existing pavement removal. This method has many benefits such as offsetting some of the field-related costs and reducing the HMA layer thickness. This alternative requires removing 3-5" of the existing surface layer, followed by pulverizing and combining the next 7" thickness of the existing pavement (existing binder course and untreated base course). A 5.5" HMA surface layer on top of the stabilized layer is recommended. The proportions of the granular base course to be mixed with the pulverized asphalt can be determined through a field evaluation at the time of the project based on the available material after milling. The expected ratios are approximately 15% to 50% pulverized asphalt material included with the granular base course. To achieve desired strengths, a 4% to 5% cement content is anticipated. The pulverization creates about 10% excess recycled materials to be utilized in the widening portions.

Mill and Overlay Applications

For both Saratoga Road and 145 North, where existing pavements are in good condition, the existing pavement can be milled and overlaid to meet proposed grades that are above the current profile. The minimum HMA overlay thickness will need to be 2.5 inches. For profile adjustments that are less than 2.5 inches above the existing grade, the existing pavement will need to be profile milled to a depth 2.5 inches below the final design grade. Feathering of the overlay in lieu of milling is not an acceptable alternative.

The overlay acceptable portions of the roadway can be found....[insert a picture of the map made by Tim].

Construction Issues

- The CTB alternative requires that the existing pavement be pulverized and graded (stabilized and compacted) on top of the compacted subgrade.
- All construction procedures and practices (either alternative) must be in accordance with the APWA specifications, with specific requirements included below.

Summary and Recommendations

After reviewing field data, alternative approaches to rehabilitating the pavement were evaluated. Based on the coring evaluation, the pavement sections are generally fully cracked. The roadway surfaces are experiencing major environmental problems with block and alligator cracking. This is likely due to a brittle asphalt mix that is not capable of withstanding the thermal strains the pavement is experiencing. The UTBC material and subgrade layer are generally not supportive enough. A short-term option of seal-coating and patching is available; however, it is not expected to provide anything more than a short delay of the long-term option due to the amount of current damage already present on the roadway. The use of **Full Depth Rehabilitation** as the primary alternatives is **recommended**. The cost of rehabilitation of the roadways, including out the replacement of the soft layer with engineered fill, was also evaluated for all alternatives. The costs below are estimates based on the worst-case scenario of rehabilitation of the full pavement footprint.

SARATOGA ROAD: GRANULAR BURROW/UNTREATED BASE COURSE/HMA CAP (ALTERNATIVE I)

Concept: Remove the Pavement, place 12" GB, Place 8" UTBC, and place 5" HMA surfacing

Estimated Cost: \$751,000

Expected Life: 20 + years, with multiple seal coats

Next Step: Typical seal coating in 2-3 years, followed by periodic crack sealing and subsequent seal coats in 7 to 8 years.

SARATOGA ROAD: PULVERIZED PAVEMENT BASE COURSE/HMA CAP (ALTERNATIVE II)

Concept: Remove the Pavement, place 6” of combined and stabilized RAP/UTBC, and place 5” HMA surfacing.

Estimated Cost: \$960,000

Expected Life: 20 + years, with multiple seal coats

Next Step: Typical seal coating in 2-3 years, followed by periodic crack sealing and subsequent seal coats in 7 to 8 years.

145 N: GRANULAR BURROW/UNTREATED BASE COURSE/HMA CAP (ALTERNATIVE I)

Concept: Remove the Pavement, place 12” GB, Place 8” UTBC, and place 6” HMA surfacing

Estimated Cost: \$1,340,000

Expected Life: 20 + years, with multiple seal coats

Next Step: Typical seal coating in 2-3 years, followed by periodic crack sealing and subsequent seal coats in 7 to 8 years.

145 N: PULVERIZED PAVEMENT BASE COURSE/HMA CAP (ALTERNATIVE II)

Concept: Remove the Pavement, place 7” of combined and stabilized RAP/UTBC, and place 5.5” HMA surfacing.

Estimated Cost: \$1,110,000

Expected Life: 20 + years, with multiple seal coats

Next Step: Typical seal coating in 2-3 years, followed by periodic crack sealing and subsequent seal coats in 7 to 8 years.

CONSTRUCTION AND MATERIALS DETAILS

All designs and performance expectations are based on the use of quality materials and construction practices. It is our recommendation that the project materials and construction practices be performed under the **current Saratoga Springs specifications. Items not addressed by Saratoga standards should meet APWA – Utah Chapter standards (including addendums)** using selected asphalt mixes designed to provide better environmental durability. Specific minimum materials properties to be included in the project are:

Hot Mix Asphalt:	Saratoga Section 02641, or APWA Section 32 12 05: Class III Mix, 15% RAP Max
Untreated Base Course:	Saratoga Section 02621 or APWA Section 32 11 23: Class A Untreated Base Course
Pulverized Pavement Base Course:	Updated APWA Section 32 11 24: with Portland Cement Stabilizer (CTBC) – <i>CMT Technical Services will provide if this option is selected.</i>
Pavement Removal:	APWA Section 02 41 14: with Curb and Gutter
Pavement Marking:	APWA Section 32 17 23

Based on observations of field conditions and materials properties, it is recommended that the construction be observed by a qualified inspector to verify that proper materials design, placement, and construction practices are followed. In addition, CMT Technical Services can provide specifications that enforce responsibility for proper Quality Control (QC) efforts on the contractor, with verification of QC activities by the qualified inspector.

LONG TERM MAINTENANCE

It is highly recommended that surface seals be placed on the pavements every 5 to 7 years throughout the life of the pavements as performance dictates.

Limitations

The conclusions and recommendations presented are professional opinions based on engineering experience and judgment. As the extent of the investigation and evaluation was limited, identification of all possible conditions is not guaranteed. A Review of the project did not include a review of design practices or standards other than those specifically indicated.

APPENDIX

Field Coring Summary

DCP - Coring Results

AASHTO 1993 Pavement Design Calculations

Pavement Cost Summaries

14500N
Saratoga Springs Rd



1



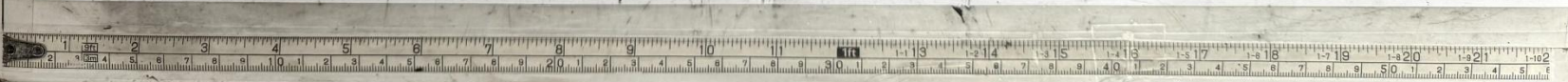
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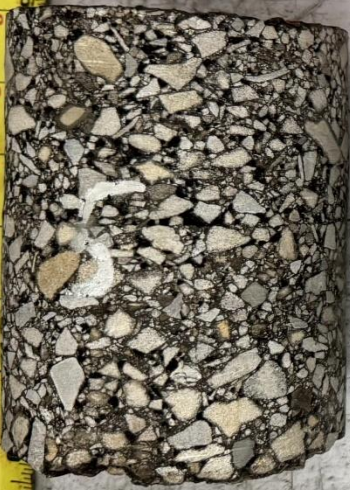
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4



14500N
Saratoga SP



5



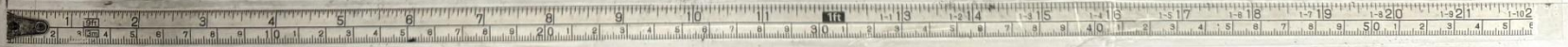
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7



8



Quartet

14500N

Saratoga Springs Rd



9



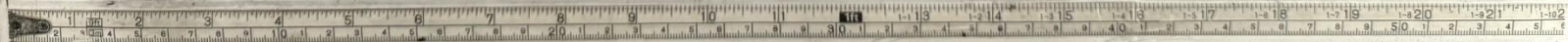
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11



12

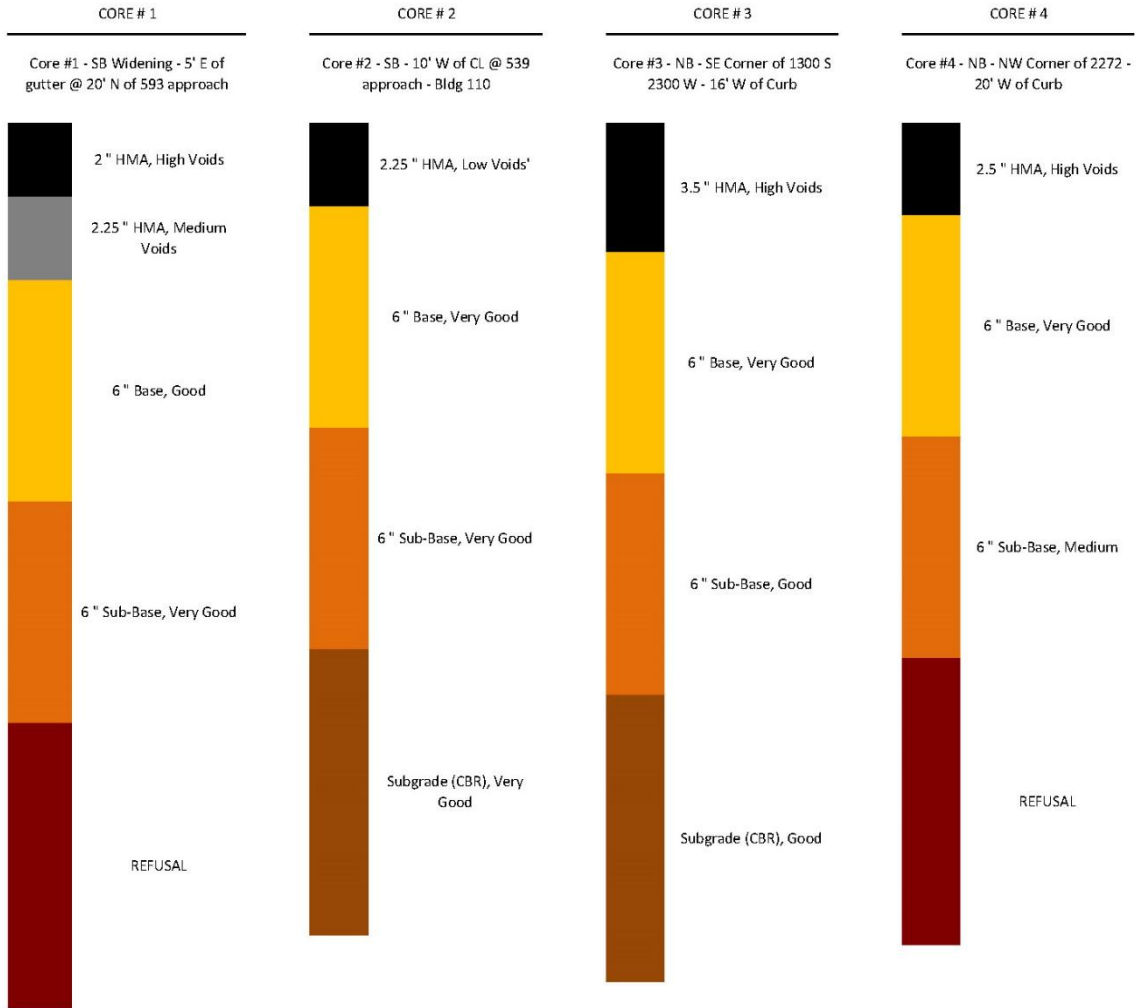


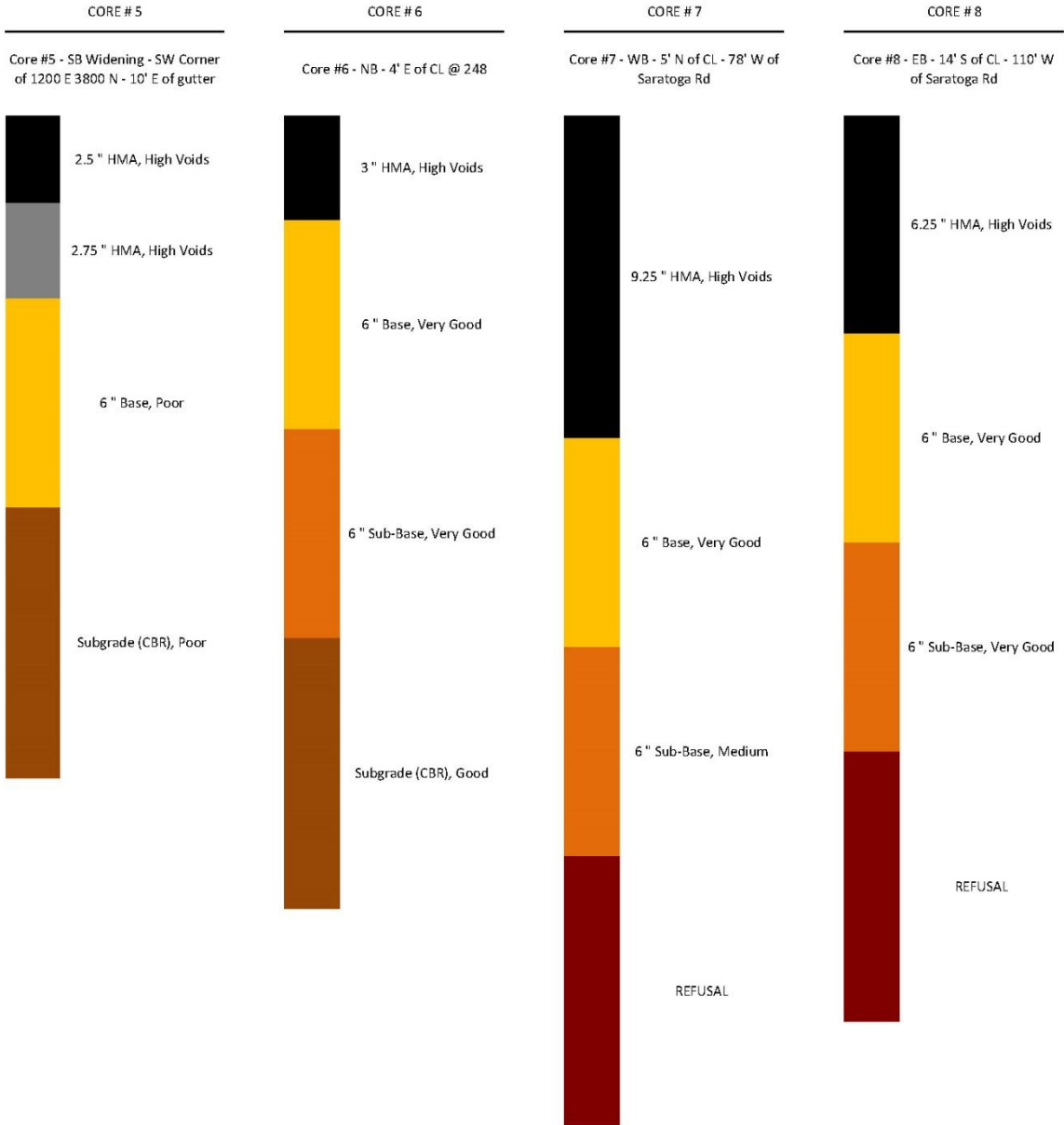
Project: 145 N Location: Saratoga Springs No of Cores: 12

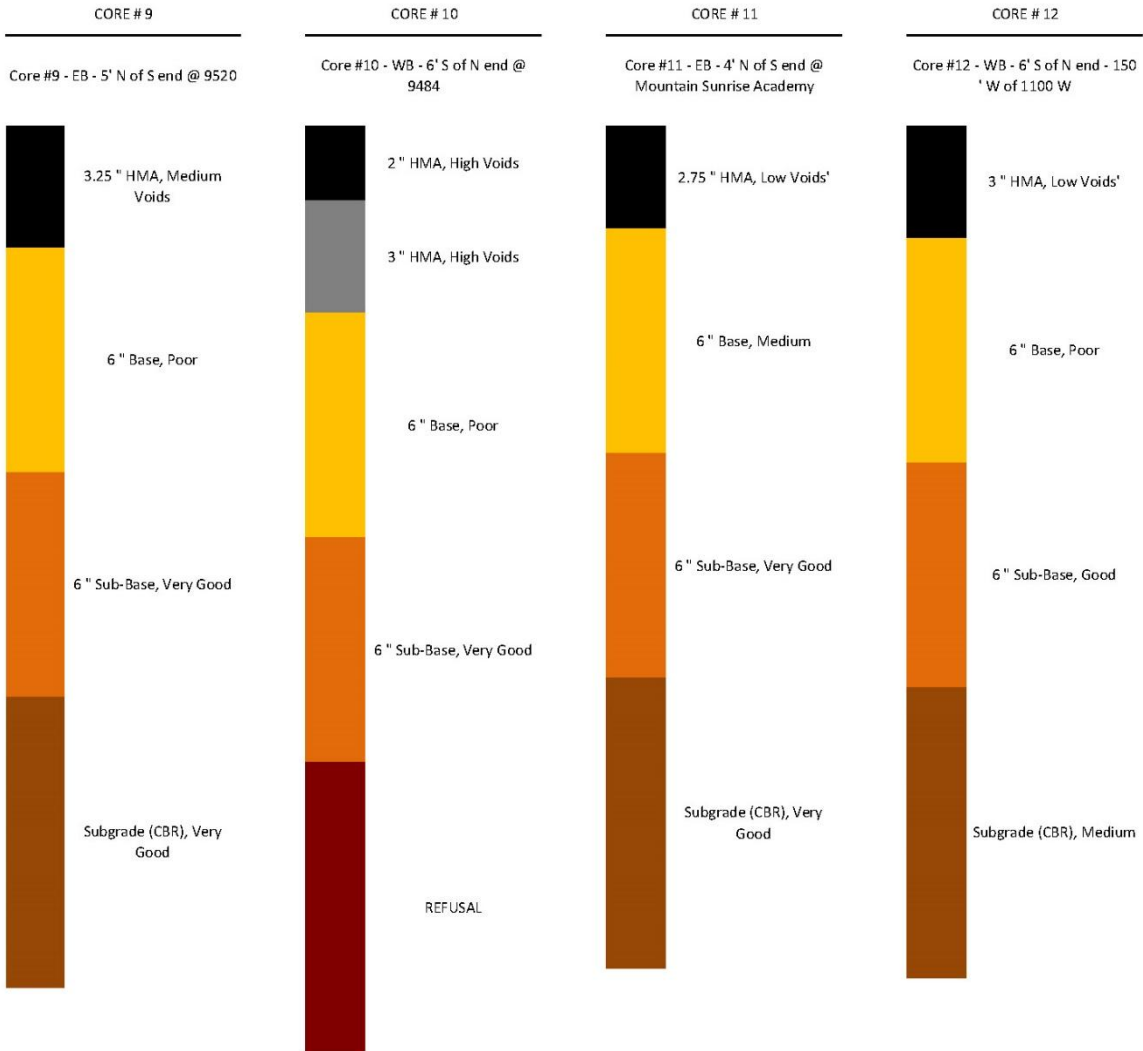
Date: 3/18/2024 Performed By: RW/FS

Existing Pavement Information

Core #	Location	No of Layers	Depth 1st	Comments	Depth 2nd	Comments	Total Depth	Base		Sub-Base		Subgrade (CBR)	
								Depth	CBR	Depth	CBR	In-situ	Lab (Est)
1	Core #1 - SB Widening - 5' E of gutter @ 20' N of 593 Approach	2	2	High Voids	2	Medium Voids	4	6	80	6	100		REFUSAL
2	Core #2 - SB - 10' W of CL @ 539 approach - Bldg. 110	1	2	Low Voids'			2	6	100	6	80	55	30
3	Core #3 - NB - SE Corner of 1300 S 2300 W - 16' W of Curb	1	4	High Voids			4	6	100	6	60	50	28
4	Core #4 - NB - NW Corner of 2272 - 20' W of Curb	1	3	High Voids			3	6	100	6	40		REFUSAL
5	Core #5 - SB Widening - SW Corner of 1200 E 3800 N - 10' E of gutter	2	3	High Voids	3	High Voids	5	6	40			15	8
6	Core #6 - NB - 4' E of CL @ 248	1	3	High Voids			3	6	100	6	100	42	23
7	Core #7 - WB - 5' N of CL - 78' W of Saratoga Road	1	9	High Voids			9	6	100	6	40		REFUSAL
8	Core #8 - EB - 14' S of CL - 110' W of Saratoga Road	1	6	High Voids			6	6	100	6	100		REFUSAL
9	Core #9 - EB - 5' N of S end @ 9520	1	3	Medium Voids			3	6	30	6	100	60	33
10	Core #10 - WB - 6' S of N end @ 9484	2	2	High Voids	3	High Voids	5	6	40	6	100		REFUSAL
11	Core #11 - EB - 4' N of S end @ Mountain Sunrise Academy	1	3	Low Voids'			3	6	60	6	80	60	33
12	Core #12 - WB - 6' S of N end - 150' W of 1100 W	1	3	Low Voids'			3	6	40	6	50	30	17
avg.							4.2	6.0		5.5			







DCP TEST DATA

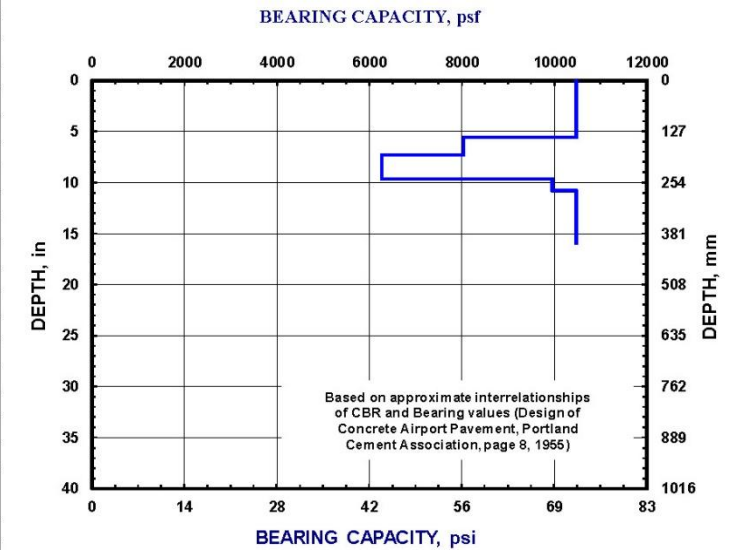
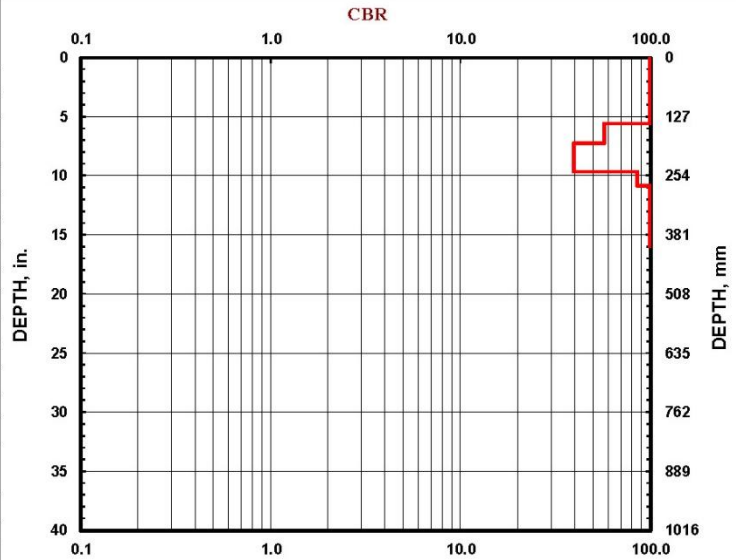
Project: 145 NSaratoga Springs
 Location: Core #4 - NB - NW Corner o

Date: 7-Apr-20
 Soil Type(s): Type in the soil type

- Hammer
- 10.1 lbs.
 - 17.6 lbs.
 - Both hammers used

- Soil Type
- CH
 - CL
 - All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
10	20	1
10	30	1
10	40	1
10	55	1
10	60	1
10	70	1
10	85	1
10	100	1
10	123	1
10	142	1
10	185	1
10	245	1
10	275	1
10	290	1
10	305	1
10	315	1
10	325	1
10	333	1
10	336	1
10	340	1
10	344	1
10	345	1
10	350	1
10	353	1
10	355	1
10	357	1
10	360	1
10	365	1
10	370	1
10	380	1
10	389	1
10	399	1
10	405	1
0	0	1
0	0	1
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0	0	1



DCP TEST DATA

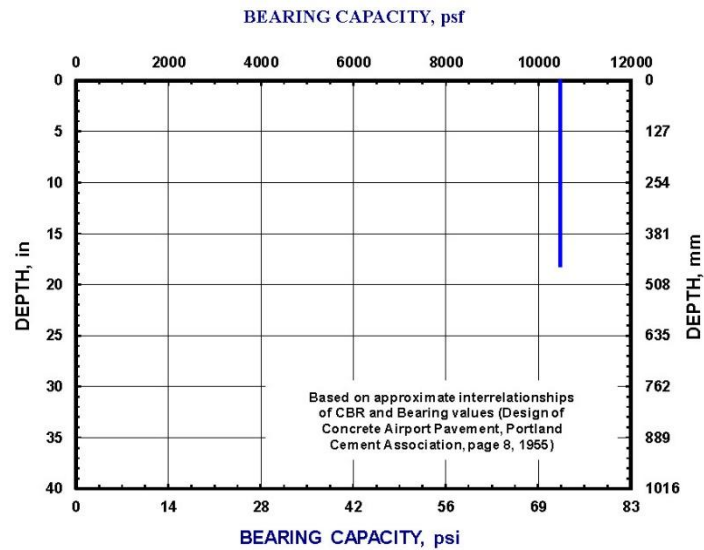
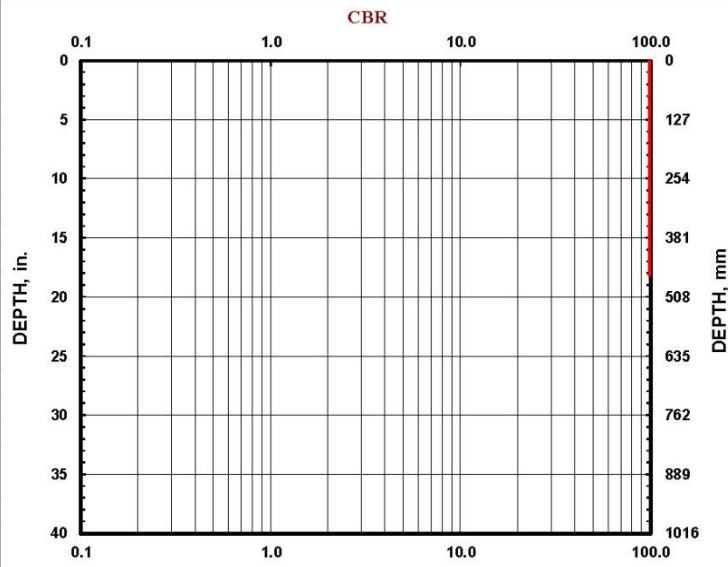
Project: 145 NSaratoga Springs
 Location: Core #8 - EB - 14' S of CL -

Date: 7-Apr-20
 Soil Type(s): Type in the soil type

- Hammer
- 10.1 lbs.
 - 17.6 lbs.
 - Both hammers used

- Soil Type
- CH
 - CL
 - All other soils

No. of Blows	Accumulative Penetration (mm)	Type of Hammer
0	0	1
10	25	1
10	45	1
10	55	1
10	65	1
10	75	1
10	80	1
10	90	1
10	98	1
10	105	1
10	112	1
10	125	1
10	145	1
10	165	1
10	170	1
10	180	1
10	190	1
10	203	1
10	212	1
10	222	1
10	234	1
10	244	1
10	254	1
10	262	1
10	270	1
10	274	1
10	290	1
10	300	1
10	307	1
10	313	1
10	320	1
10	325	1
10	335	1
10	345	1
10	360	1
10	375	1
10	390	1
10	410	1
10	435	1
10	460	1
0	0	1
0	0	1
0	0	1



WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
 American Concrete Pavement Association

Flexible Design Inputs

Project Name: Saratoga Road Project
 Route: Arterial
 Location: Pioneer Crossing to 145 N
 Owner/Agency: Saratoga Springs Public Works
 Design Engineer: Recons of the local roads. Des Alt I

Flexible Pavement Design/Evaluation

Structural Number	3.74	Subgrade Resilient Modulus	9,388.70 psi
Total Flexible ESALs	4,470,718	Initial Serviceability	4.50
Reliability	90.00 percent	Terminal Serviceability	2.00
Overall Standard Deviation	0.45		

Layer Pavement Design/Evaluation

Layer Material	Layer Coefficient	Drainage Coefficient	Layer Thickness	Layer SN
Asphalt Cement Concrete	0.40	1.00	5.00	2.00
Untreated Base Course	0.10	1.00	8.00	0.80
Granular Subbase	0.08	1.00	12.00	0.96
			ΣSN	3.76

WinPAS

Pavement Thickness Design According to
1993 AASHTO Guide for Design of Pavements Structures
 American Concrete Pavement Association

Flexible Design Inputs

Project Name: 145 N Project
 Route: Arterial
 Location: Saratoga Rd to 1100 W
 Owner/Agency: Saratoga Springs Public Works
 Design Engineer: Recons of the local roads. Des Alt I

Flexible Pavement Design/Evaluation

Structural Number	4.16	Subgrade Resilient Modulus	9,388.70 psi
Total Flexible ESALs	9,560,015	Initial Serviceability	4.50
Reliability	90.00 percent	Terminal Serviceability	2.00
Overall Standard Deviation	0.45		

Layer Pavement Design/Evaluation

Layer Material	Layer Coefficient	Drainage Coefficient	Layer Thickness	Layer SN
Asphalt Cement Concrete	0.40	1.00	6.00	2.40
Untreated Base Course	0.10	1.00	8.00	0.80
Granular Subbase	0.08	1.00	12.00	0.96
			Σ SN	4.16

CTB Reconstruction Pavement Section									
Item	Cost	Unit	Unit Weight		Depth (in)	SN	Cost		
Stone Matrix Asphalt (SMA)	\$ 130.00	Ton	148	lb/ft ³	0.40	0	0.00	\$ -	per SY
Hot Mix Asphalt (HMA)	\$ 120.00	Ton	148	lb/ft³	0.40	5	2.00	\$ 33.31	per SY
Cement Treated Base	\$ 9.66	SY	140	lb/ft³	0.30	6	1.80	\$ 7.24	per SY
Untreated Base Course (UTBC)	\$ 35.00	CY	144	lb/ft ³	0.30	0	0.00	\$ -	per SY
Class I Fabric	\$ 2.00	SY	100	lb/ft ³		0	0.60	\$ -	per SY
Roadway Excavation (Road Ex)	\$ 9.00	CY	138	lb/ft³		11	4.40	\$ 2.75	per SY
							30% Contingency		\$ 12.99 per SY
<i>Structural Design</i>									\$ 56.29 per SY
		20	YR						

Full Reconstruction									
Item	Cost	Unit	Unit Weight		Depth (in)	SN	Cost		
Stone Matrix Asphalt (SMA)	\$ 136.00	Ton	148	lb/ft ³	0.40	0	0.00	\$ -	per SY
Hot Mix Asphalt (HMA)	\$ 120.00	Ton	148	lb/ft³	0.40	5	2.00	\$ 33.31	per SY
Untreated Base Course (UTBC)	\$ 35.00	CY	144	lb/ft³	0.12	8	0.96	\$ 7.78	per SY
Granular Borrow (GB)	\$ 24.00	CY	138	lb/ft³	0.08	12	0.96	\$ 8.00	per SY
Class I Fabric	\$ 2.00	SY	100	lb/ft ³		0	0.60	\$ -	per SY
Roadway Excavation (Road Ex)	\$ 9.00	CY	138	lb/ft³		25	4.52	\$ 6.25	per SY
							30% Contingency		\$ 16.60 per SY
<i>Structural Design</i>									\$ 71.93 per SY
		20	YR						

Project Length	MI	
	4000	FT
Project Width	30	FT
Project Area	13,333.33	SY
Patching Percentage	0%	
Patching Area	-	SY
Tons FDR	5,800.00	Tons
Tons Cement	580.00	Tons

SY Units/Prices for FDR

	Tons/SY	Cost/SY
FDR Processing	0.435	\$4.00
Cement (5%)	0.022	\$2.83
Cement (10%)	0.044	\$5.66

% Cement	\$/Ton
10.0%	\$130.00

Project Option	Immediate Cost	Annual Cost
CTB	\$750,479.17	\$37,523.96
Full Reconstruction	\$959,112.31	\$47,955.62

145 N Pavement Rehab Cost Estimate

Target SN: 4.16

CTB Reconstruction Pavement Section									
Item	Cost	Unit	Unit Weight		Depth (in)	SN	Cost		
Stone Matrix Asphalt (SMA)	\$ 130.00	Ton	148	lb/ft ³	0.40	0	0.00	\$ -	per SY
Hot Mix Asphalt (HMA)	\$ 120.00	Ton	148	lb/ft³	0.40	6	2.40	\$ 39.97	per SY
Cement Treated Base	\$ 9.66	SY	140	lb/ft³	0.30	7	2.10	\$ 8.45	per SY
Untreated Base Course (UTBC)	\$ 35.00	CY	144	lb/ft ³	0.30	0	0.00	\$ -	per SY
Class I Fabric	\$ 2.00	SY	100	lb/ft ³		0	0.60	\$ -	per SY
Roadway Excavation (Road Ex)	\$ 9.00	CY	138	lb/ft³		13	5.10	\$ 3.25	per SY
							30% Contingency		\$ 15.50 per SY
<i>Structural Design</i>									\$ 67.16 per SY
		20	YR						

Full Reconstruction									
Item	Cost	Unit	Unit Weight		Depth (in)	SN	Cost		
Stone Matrix Asphalt (SMA)	\$ 130.00	Ton	148	lb/ft ³	0.40	0	0.00	\$ -	per SY
Hot Mix Asphalt (HMA)	\$ 120.00	Ton	148	lb/ft³	0.40	6	2.40	\$ 39.97	per SY
Untreated Base Course (UTBC)	\$ 35.00	CY	144	lb/ft³	0.12	8	0.96	\$ 7.78	per SY
Granular Borrow (GB)	\$ 24.00	CY	138	lb/ft³	0.08	12	0.96	\$ 8.00	per SY
Class I Fabric	\$ 2.00	SY	100	lb/ft ³		0	0.60	\$ -	per SY
Roadway Excavation (Road Ex)	\$ 9.00	CY	138	lb/ft³		26	4.92	\$ 6.50	per SY
							30% Contingency		\$ 18.67 per SY
<i>Structural Design</i>									\$ 80.92 per SY
		20	YR						

Project Length		MI
	5500	FT
Project Width	27	FT
Project Area	16,500.00	SY
Patching Percentage	0%	
Patching Area	-	SY
Tons FDR	7,177.50	Tons
Tons Cement	717.75	Tons

SY Units/Prices for FDR

	Tons/SY	Cost/SY
FDR Processing	0.435	\$4.00
Cement (5%)	0.022	\$2.83
Cement (10%)	0.044	\$5.66

% Cement	\$/Ton
10.0%	\$130.00

Project Option	Immediate Cost	Annual Cost
CTB Reconstruction Pavement Section	\$1,108,211.57	\$55,410.58
Full Reconstruction	\$1,335,145.12	\$66,757.26